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EDITORIAL: MAGAZINE COVERS

by Isaac Asimov

art: Frank Kelly Freas

In April 1926, the first issue of the first all-science-fiction magazine came out. It was *Amazing Stories*, Volume 1, Number 1.

The most characteristic aspect of the cover of that magazine, at least to me, was the lettering of the name. It began with a gigantic A in the upper left corner of the magazine (which was 8½ by 11 inches in size—typical for those days). Naturally, the remaining letters couldn't be that large; there wasn't room. They tailed off smaller and smaller, therefore. The entire effect was that of an onrushing (or, perhaps, leave-taking) comet or rocket-ship.

Why was it designed in that fashion? Well, I wasn't there when it was decided upon, but I can guess.

In those days (as in these) there were many magazines competing for reader attention, and they were presented in the racks in bewildering plenty. There wasn't room enough to present them all full-face, so they were usually overlapped both in horizontal rows and vertical columns. Perhaps only the upper half of the leftmost quarter of the magazine was exposed.

Something characteristic of a magazine therefore had to be located in the upper left for easy recognition. Or, if the magazine were unknown, something obtrusive had to be there to stir reader curiosity. In the case of *Amazing Stories*, it was that giant A. I'm sure many youngsters, surveying the rack, were impelled by curiosity to lift up that particular magazine to see what the A signified.

It must have helped, for *Amazing Stories* did well enough to stay in business for over half a century—to this present day, in fact.

The very success of that technique established the up-and-right curve as the thing to do for science fiction magazines. A surprising number of them later adopted this decreasing curve, usually in less-exaggerated forms. (There is no point in copying too closely, for it is necessary to establish some distinctiveness for the sake of reader recognition.)



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When *Astounding Stories* first appeared, "Astounding" tailed off. So did "Marvel," "Startling," "Planet," and others, on the magazines with those words included in their titles.

There is more to a magazine cover than the name, of course. One also needs an illustration.

The function of a cover illustration is two-fold. It must first attract the attention of the potential reader; and it must, secondly, give that reader an instant understanding of the nature of the contents.

To attract attention, the illustration must be in harsh primary colors with sharply edged figures. Furthermore, it must depict a scene of dramatic interest.

To establish the nature of the contents, a detective-story cover would show a man with a gun; a Western-story cover would show a man with a horse; a love-story cover would show a man with a woman. These serve as labels, instantly recognizable, and changing somewhat from month to month so that the reader will know when a new issue has appeared and can tell at once that it is something he has not yet read.

In science fiction, the cover illustration must show something that is not yet so, that is in some way futuristic, if the nature of the contents is to be described. One sure-fire way is to include futuristic machinery—spaceships, robots, or ray-guns. Another is to show extraterrestrial beings, particularly if they can be shown threatening beautiful Earthwomen with a vague hint of sexual molestation. (Extraterrestrial creatures were so often portrayed with large eyes that the expression "bug-eyed monsters", abbreviated to BEMs, became a generic term for such covers.)

Naturally, although the covers fulfilled their function of attracting readers and advertising the nature of their contents, they were also embarrassing. To people who were ignorant of science fiction or contemptuous of it, the covers were "cheap" and their all-too-easy recognizability made the reader the instant prey of disapproving parents or teachers. In those prehistoric days, science fiction readers learned to keep the covers hidden. Some even tore them off.

With the years, however, respectability grew and the intense need for signalling faded. Reader demand for less embarrassing covers also grew. What's more, the term "science fiction" was invented in 1930 and that became well enough known to serve as the necessary advertisement all by itself.

In March 1938, *Astounding Stories* became *Astounding Science Fiction*, thanks to John W. Campbell, Jr., the new editor of the magazine. Other magazines adopted "science fiction" as part of the

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title. In 1939, a magazine entitled simply *Science Fiction* was born.

With *Astounding Science Fiction* leading the way, covers became more sedate. *Astounding* adopted unadorned horizontal lettering for itself and emphasized the "science fiction" at the expense of the "astounding." Cover illustrations cooled down and became more realistic and less cartoonish.

Needless to say, older fans (among whom I number myself despite the fact that I am as yet only in my late youth—though verging, I must admit, on early middle age) harked back to those early disreputable days of science fiction with nostalgia. Ah, those big block letterings and, oh, those bug-eyed monsters.

Came the day when I had to choose among various suggested styles for the cover lettering of *Isaac Asimov's Science Fiction Magazine*. One of them had the "Isaac" tailing off and the "Asimov" under it also tailing off, so that the upper left had the big IA. I selected it at once, and I knew exactly why I selected it. It brought back the joys of my adolescent fanhood.

Naturally, I couldn't trust my own judgment in such matters, knowing, as I did, the influence behind it, so I asked Janet to choose, without telling her my choice. She chose the one I did. I next phoned George and told him what had happened and it turned out that, quite independently, he and Joel had both fixed on that same one. So the title-that-tailed-off returned to science fiction.

The illustration on that first issue was a photograph of your own un-humble servant. I was uneasy at that. After all, though it is possible that my wife and daughter (to say nothing of an occasional dazzled young fan of the female persuasion) might think I was beautiful, I could scarcely make myself believe that was a generally held view. I was therefore not at all sure that my face, mutton-chops and all, would sell magazines. Nevertheless, since my personal name was part of the magazine name, it seemed useful to make the association as clear as possible. (I was going to say "as plain as possible" but that would elicit all sorts of wise-guy remarks, I know.)

When I found that my face was also going to appear on later issues, I objected. I said that science fiction fans were too articulate a bunch to let that go without witticisms of all kinds—and I was right. After three issues, Joel decided it would be wise to make me less prominent. The cover was devoted to more traditional scenes of science fiction interest, and my face was placed, in miniature, within the "o" of "Asimov."

My face stayed, one way or another, for the next 34 issues. To be sure, it was absent from the "o" in the July-August 1978 issue; but

in that issue I was present on the cover itself as part of the action.

Beginning with the July 1980 issue, the size of the lettering was decreased in order to make the cover seem less cluttered, and the size of my photograph was decreased, too—almost to the point of unrecognizability, something that some readers objected to. (Perhaps it made it too hard to score a bull's-eye when playing darts.)

By the time we had reached our fifth year, *Isaac Asimov's Science Fiction Magazine* had certainly won the battle for recognition. We were an established part of the science fiction scene; and the impulse arose to re-design the cover to make it, on the whole, quieter and more attractive.

This was done (beginning with the 13 April 1981 issue) in several ways. First, the name was made less obtrusive. After all, *Isaac Asimov's Science Fiction Magazine* is very long for a title, and the one essential word is "Asimov." In the science fiction world there is only one Asimov, and it is now firmly associated with the magazine. The new title design is therefore almost entirely "Asimov." Everything else is still there, but in small and unobtrusive print. And no photograph; I had finally disappeared.

There is a white area that now rims the cover illustration like a frame, and "Asimov" is in that white area, leaving the illustration much cleaner and uncluttered than it was before. The illustration is less directly illustrative and more symbolic.

It takes some getting used to (all changes do); but I like the new look. Now that you've had a chance to grow accustomed to it over half a dozen issues, I'll bet you do, too.

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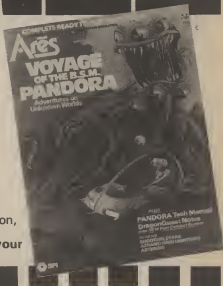
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by Baird Searles

Caverns by Kevin O'Donnell, Jr., Berkley, \$2.25 (paper).

A Planet In Arms by Donald Barr, Fawcett, \$2.25 (paper).

Giger's Alien, Big O Publishing, \$17.95 (paper).

Of Men and Monsters by William Tenn, Del Rey, \$2.50 (paper).

After the block busters of the last two columns (and covered in less than the usual time), I'd like this piece to be a little lower-keyed. It's great to have a *Claw of the Conciliator* or a *Many-Colored Land* to review, but I'm not sure I could take it every issue. Better that, still, than the opposite numbers. . . .

Anyhow, this will be a quiet column; and since some time back I had said that some space would be devoted to collecting, in response to popular demand, perhaps this might be that space: bibliomania, as we all know, is the most genteel and undramatic of occupations (witness Lord Sephulchrave of *Titus Groan*, for instance—a cozy fireplace and such). And there are some recent volumes to talk about, which we will get to anon.

I must reiterate that I am hardly the *dernier cri* on the art of collecting, but I can pass on what I have learned from the more knowledgeable. And one of those painful facts is that where there is a collection, there must eventually be a catalogue.

Luckily, science fiction people usually seem to have the kind of temperament that likes to catalogue. Nevertheless, that doesn't make it any less arduous a task; it's usually only after one has acquired 500 volumes or so that it penetrates that a catalogue is desirable. If there are any prescient geniuses out there with only 15 or 20 books, let me declare that this is a good time to start carding.

Why a catalogue? The simplest of reasons is to enable you to know what you have, and where. Given the space problems so many people have in their homes these days, often books must be boxed or stored; a catalogue will allow access to information about them without having to dig them out. As to where, even if you have yards of lovely bookshelves, a catalogue can help you divide your books into findable categories, since the absolutely logical system is always subject to disruptions such as size of book versus size of shelf and so on. I'm one of those people who seem to have a visual recall as to where a

book is, no matter how out of place or illogically located, but that's failed often enough to make me want a second option.

(As for shelf system, my books are systematized, as are those at The Science Fiction Shop, fairly simply: novels and one-author collections alphabetically by author; then anthologies alphabetically by title; then non-fiction and reference by author; finally art books, difficult to arrange, but probably best again by artist or by title if multiple artists are involved.)

What materials do you need for a catalogue? A pen or typewriter, 3 × 5 file cards, and a box to put 'em in (or a rubber band to put around them) are as basic as you can get. I use a Rolodex wheel because the cards are smaller, and my environment is dedicated to saving space. As for the computer-type cataloguers, they're a breed to themselves (an enviable one, of course).

And finally, what do you write on the cards? This brings us back to the reason(s) for cataloguing, since on that depends what is noted on the cards. Even if you are dead sure where every book in your library is, and *what* it is, your collection will eventually have a value—and at the rate SF and fantasy is appreciating these days, it could well have a considerable value. So there is the matter of insurance, that most convoluted of frauds being perpetrated on our culture (but nevertheless, *sometimes* a wise investment), and eventual sale (horrible thought, but a possibility that must be faced).

In each of these, professional evaluation is often necessary, and a catalogue in that case is invaluable, giving the material for a preliminary assessment (the books themselves have to be examined for a final judgment, of course, since condition is of great importance).

So, for me, the basic information to be noted is *author* or *editor* (noted as *ed.*), *title*, *publisher*, *date of publication* (year will do, but more specifically if it's available on the copyright page or elsewhere), and *edition* or *printing*, if you know (there are reference books to help with that; I'll get to those when I do a piece on tools). I also note if it has a dust jacket, and the artist, if he or she is noteworthy (ditto paperback covers).

There are other matters that can be put down*, but don't forget that this is a matter of hundreds of repetitions, so there's a limit. However, you might consult with your local librarian, if you're on speaking terms, or simply steal a look at the file cards in the library file drawers. If you're lucky enough to have a friend whose collection

*Such as ISBN numbers—don't ask.

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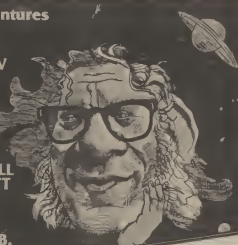
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also needs cataloguing, it is easier done by two, one reading the information, one writing; and you can trade off. If you're well-to-do and lazy, there was an article in *The New York Times* recently to the effect that professionals can be hired to do this. But however, if you *are* that novice collector who suspects his collection of growth potential, get cracking. I waited, and now have been working on my catalogue for about five years. It's not all that monumental a collection, but there's an alarming tendency, no matter how sporadically conscientious I am, for the books to get further and further ahead of the cards.

Now, for those who just want to read books and not hoard them like Smaug's jewels, let's begin with Kevin O'Donnell, Jr.'s *Caverns*, Book 1 of a series which is called, overall, *The Journeys of McGill Feighan*.

This slam-bang series opener is hardly low-keyed, I must say. Take some early Bester, such as an intricate star-traveling culture based on "flinging," i.e. telekinesis; start a story that looks like it could be a rites-of-passage number à la Heinlein's *Citizen of the Galaxy* and *Starship Troopers*, as Our Hero comes of age in the flinging service; underline this with a plot that starts with Our Hero being swallowed at a few days' age by a charming, truck-sized alien for 72 hours, then regurgitated, both at the behest of a mysterious Far Being named Retzglaran; set up this Being, who may live at the Other End of the Galaxy or in Cleveland, a city prominent in the narrative (we've all read *Foundation*—we know how convoluted Galactic geography can get when someone's trying to hide) as one end of a Good-Evil axis, the other end of which is the Organization (also interested in Our Hero because of his ingestive experience while young).

If all that doesn't make sense, don't worry. It does—sort of—when expanded to 200 pages, but what a stew! O'Donnell is nothing if not inventive, and he certainly keeps the action going—this series may make E.C. Tubb's *Dumarest of Terra* look as uncomplicated as "Lost in Space."

Perhaps that was my problem with it. In one sense, there is so much going on that, particularly in the first half, you have to keep stopping to untangle yourself. Then one gets shipped off on an extended side-trip to two sentient species that share a planet and use each other as the main course of their respective cuisines, which is all very interesting, but bogs down the main thrust of the story.

I think O'Donnell still needs to master the fine art of making the

complex seem simple; nevertheless, a lot of people will have a lot of fun with this book in particular and the series in general, if it keeps up the way it's going—whichever way that is.

Donald Barr is a teacher, writer, and scholar, headmaster of the prestigious Dalton School in New York. His first science fiction novel, published some years back, was a thoroughgoing delight. Entitled *Space Relations*, it was a highly sophisticated space opera and didn't receive anywhere near the recognition it deserved.

This gave me great hopes for his long-awaited second novel in the genre. *A Planet in Arms*, alas, baffled me utterly. Involving much skullduggery in the chaotic aftermath of a revolution on a colonial planet, it proved impenetrable, possibly because the novel seemed much more concerned about the political and economic situation on Rohan's Planet than I was, despite the author's best efforts. This is the sort of instance that makes the reviewer think he might be Missing Something, which does happen, faithful readers, despite attempts by some critics to convince you otherwise.

Let's see. Low-keyed and relaxed. Maybe an art book. Kulchur, you know; it's supposed to be relaxing.

Take for instance, *Giger's Alien*. This combination journal, production-photo album, and collection of conceptual paintings by H.R. Giger for the movie, *Alien*, is very soothing, mainly because it doesn't jump out at you. (Now if they could have just done the *Alien Pop-Up Book* . . .)

It is a handsome volume. I didn't much like the film, finding it obvious, to say the least; but there is no denying that the production was a stunner. Giger—a true visual artist—created the look of the alien sections of the film (as well, of course, as the alien itself) in the way the great painters used by Diaghilev for the Ballets Russes created the stage pictures there; it is both art and a brilliant try at a really *unhuman* quality for sets and props (marred only by a few obvious touches that were all *too* human—rather graphically so). This book is an excellent record of that achievement.

Oh, to hell with relaxed. Let's end with a rousing reprint, one which I had the misfortune to have never read. It's William Tenn's *Of Men and Monsters*, and it dates from the 1960s; but it has that excitement that the really good SF of the 1940s had, of an outrageous idea really well carried off.

The idea is that of humanity in the not-too-distant future existing

as vermin in the dwellings of huge aliens who have less conquered than taken over the Earth, ignoring humanity for the most part except to eradicate it when it gets in the way.

The premise of the novel assumes that there is simply no possibility of intelligent communication, and therefore no possibility of the aliens realizing that these small and, to them, mostly loathsome creatures are sentient. Therefore, we have the wonderful picture of tribes of humans wandering around what passes for baseboards and ratholes in the aliens' homes, scavenging incomprehensible objects like the Borrowers. It takes a really bold writer to bring this kind of thing off; luckily, Tenn is that kind of bold and I'm very glad I caught up with this one.

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by Alan Lankin

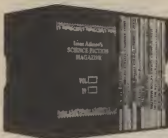
Mr. Lankin, an assistant editor of this magazine, also works at station WXPB, a listener-supported radio station at the University of Pennsylvania.

Don't be surprised if you hear science fiction the next time you turn on your radio. In March American radio stations affiliated with National Public Radio (NPR) started broadcasting the BBC's "The Hitchhiker's Guide to the Galaxy" and a radio adaptation of *Star Wars*. These series may signal a comeback of radio drama in the United States. A lot of quality science fiction was produced for radio in the 1950s, such as the series "X Minus 1," which adapted many good science-fiction stories. During the same period, radio drama was essentially replaced by television drama. Not until 1973 with the "CBS Radio Mystery Theater" was there again any significant network drama series on radio. Radio drama continued to be produced in England—this may be one reason why "The Hitchhiker's Guide" is more successful than "Star Wars."

In 1977 *Star Wars* became one of the top-grossing films of all times. The success of the movie spawned sequels and tie-ins: books, records, comic books, a comic strip, toys, and who knows what else. Thus a radio series shouldn't be a real surprise. Unfortunately, the thirteen-part adaptation is not as good as the original movie. Instead of writing a new story, the producers of the radio series chose to adapt the movie and pad it out to six and one half hours. Although I haven't been able to preview all the episodes, the radio show seems like a plodding and pictureless version of the movie.

The NPR-produced radio series was reportedly delayed for over a year, which may have something to do with the fact that only two of the original cast members appear: Mark Hamill as Luke Skywalker and Anthony Daniels as C-3PO. The replacement of the other cast members is disconcerting: instead of coming alive as real characters they just seem to echo the characters they're imitating.

On the plus side, the series was able to use the original sound effects and John Williams's score. These give the series a good sound quality; the special effects have an especially vivid texture. Unfor-



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tunately, the quality of the sound effects is not matched by the quality of the acting. Except for Anthony Daniels, none of the voices are really suited for radio—for one thing, most of the actors sound too much like each other. The actors just don't have a good sense of timing and delivery; their characters never come alive. The script contains too much bad melodrama full of excited screaming and juvenile humor. Movies can rely on actors that are good-looking, but radio needs good actors with good voices.

The problem with the voices points out what I think is the major problem with the series: it is too much a radio version of a movie rather than a work created especially for radio (which can include a carefully thought out adaptation). At times, the radio series sounds like a movie with the picture turned off, and *Star Wars* was such a visual movie that it's hard for it to work without the images. The exciting battle scenes with spaceships whizzing by aren't as exciting with just the whizzes. And many of the sounds aren't understandable by themselves—in the final battle against the Death Star, instead of just hearing Luke attacking the ship, Princess Leia must explain what we aren't able to see.

The major appeal of the movie was its ability to capture the thrill of a Flash Gordon serial with modern special effects. The "Star Wars" radio series portrays all the clichés without capturing any of the life.

Life is something that the BBC's twelve-part serial "The Hitchhiker's Guide to the Galaxy" has in abundance. A hit in England, the series became a book, a record, a play, and now the BBC is making a television version. Science fiction is now so familiar a subject that a radio show like "The Hitchhiker's Guide" can take the background of science fiction for granted and have fun with it.

The writing on the series is in the British comedy tradition of understated absurdity that is shared by Monty Python, the Goon Show (with Peter Sellers), and Dudley Moore. This similarity shouldn't be too surprising since the author, Douglas Adams, was once a staff writer for the Python TV show.

"The Hitchhiker's Guide" breaks with Monty Python, however, in that it's a coherent story rather than a series of loosely connected sketches. Also unlike Python, two of the characters at least approach normalcy: Earthling Arthur Dent and alien Ford Prefect, who cemented his friendship with Arthur by helping him escape moments before a band of malevolent aliens vaporized the Earth. (It had been standing in the path of a planned hyperspace bypass of an inter-

galactic highway.) This is an example of another difference between this series and the Monty Python show: most of the humor here proceeds from the situations instead of just from the dialog. The show still has many puns and much witty dialog.

The series makes good use of the unexpected; it manages to tie things together when the audience least expects it. Adams spoofs many of the conventions of science fiction, but to his credit the show is never derivative. "The Hitchhiker's Guide" also hits on the solemnity of philosophers, scientists, and those humans who attach too much importance to themselves and their digital watches. The series loosely centers around *The Hitchhiker's Guide to the Galaxy*, a sort of talking encyclopedia of all the knowledge considered useful for helping one thumb a ride around the cosmos. Ford Prefect is a roving researcher for the book, and has recently updated the entry for Earth, which had simply read **Harmless** and now reads **Mostly harmless**.

The universe portrayed in "The Hitchhiker's Guide" is wondrously varied: in the course of the series, Arthur learns how to be an interstellar hitchhiker and in the process gets to meet war-mongering aliens, manic-depressive robots, and learns the answer to the great question of Life, the Universe, and Everything. It's a very philosophical radio show. Really.

"The Hitchhiker's Guide" makes very good use of the radio medium. The sound effects are even more interesting than those of "Star Wars," and the producers use actors who are able to work in radio: the actors know how to use timing, so important in humor. The whole show is exciting and fast paced.

The failure of "Star Wars" as a radio series is discouraging, but the success of "The Hitchhiker's Guide" shows that radio is a medium that still has life as a carrier for drama. Best of all, "The Hitchhiker's Guide to the Galaxy" doesn't take the universe too seriously, which is why it's such a delight.





THE DARK COMPANION

by John M. Ford

art: Frank Borth



Dr. Charles Gaiser shoved the observatory door open. The hall lights were out, but he did not need them, navigating by memory to the instrument room. He struggled with the knot in his scarf; tugged his coat open, and a button popped away, clattering somewhere on the floor. Gaiser did not pause for it.

Dr. Natalie Lindis was alone in the room, working at the Telex, when Gaiser came in. She stopped typing at once, and sat erect and still. Gaiser's eyes, large and dark behind slightly tinted glasses, flicked around. "Where's Spence?" he said, coolly, not pleasantly.

"It's just us tonight," Lindis said lightly, waited an instant, then said, "Spence had that rally tonight. For the L-Fivers. You remember, he's been talking about it for weeks."

"I remember," Gaiser lied, thinking *Damn the kid and his castles in the air!* "Is the digitizer working?"

Lindis did not speak immediately. "He left it assembled. Working—well, you know."

"Too damn well." Gaiser shoved his coat into a locker, put his arms into the sleeves of a heavy sweater. He fumbled with one button, ignored the rest. "I also know we've got an observing night."

"He promised to come in tomorrow morning and work on the comparator stage. Penance, he said."

"Tomorrow morning, hell! As long as he's one of my post-docs, he's an optical astronomer, and a stellar astronomer, and *we* do our work at *night!*" Gaiser stopped short, shook his head. Lindis looked toward him but did not meet his eyes. The angle seemed to emphasize her past-forty wrinkles, though Gaiser had always found her attractive. More quietly, he said "We'll plug it in anyway, and if it falls apart again he'll really have penance to do."

Lindis pointed at the Telex. "Can I finish this, Charlie? It's the skybounce from Jodrell Bank."

"Isn't anybody interested in optics anymore?" Lindis did not laugh. "Go ahead then. I'll be on the deck. If I see any radio events I'll tell you."

She smiled faintly. "Take some hot coffee. And wrap up; you don't want to miss any more—" She saw his face and stopped talking, and smiling, and went back to the terminal.

Gaiser took his mug from the cupboard, filling it automatically, his mind far away, and started up the steel stairs to the deck beside the main observatory dome.

He had been warm as coals climbing these stairs last October. Too warm. Five minutes after he reached the deck he was flat on it, fading like a flare star—"Christ, Charlie, lie still, the stars'll be there when you get back—" "Hell yes, why didn't you take some time off? A 104° fever is nature's way of telling you to postpone an observation—"

Gaiser put one foot ahead of the other on the steps, hot darkness in his hand, cold darkness above him, thinking *I will not stop. I will not pause. I will not be afraid of the dark.*

I will not be afraid of the dark.

Gaiser went out on the deck, clouds of vapor rising from his mug. Just behind him was the dome, a dark curve lit only by safety lights. Ahead, the steel railing around the deck twinkled, with dark spots where the small-scope brackets were mounted. He could smell, then faintly see, the pines that helped block the light from town and highway. There was no sound at all.

The sky was moonless, cold and clear, blacker than blue, and as Gaiser watched star after untwinkling star appeared, by the dozens, the hundreds, till the field was dusty with them. After some minutes he could just perceive the galactic equator, a softly luminous band that was a billion stars' light, as old as a thousand centuries.

Not just an observing night, a *perfect* observing night—and Spencer Mazur, allegedly a genius, was wasting it playing mind games, arguing with a bunch of students about what kind of wheat they would plant in their orbital farms, once they built the orbital farms, once they, and so forth, and so on. *Not one seed will you plant, Spence. Not one flower will you see blossom out there. You want what you cannot reach.*

Gaiser closed his eyes; the stars remained for a moment. He squeezed his lids tight; the starfield inside gained contrast, then faded. He looked up again, to the north: to Vega, bright on the horizon, through the cross of Cygnus upward to a point just above the Swan's tail. If he looked just to the side, bringing his acutest night vision to bear, he could faintly see Atkinson's Star, an M2 red dwarf, undistinguished. But very soon it would have something to distinguish it. Very soon: maybe by morning. If Spence's damned digitizer didn't fall apart in the middle of things—

Gaiser's wristwatch alarm pinged. He sat down on the deck parapet, leaning against the rail; put his coffee down and took a pillbox from his pocket. A tablet went down with hot coffee after. Gaiser closed his eyes for a moment, then looked at Vega, the brightest star of the Lyre, resting just at treetop level. He had always been fond

of it—*fond of a star, damn silly*—perhaps its blueness, its brightness, its place as keystone of the summer sky. It was twenty-eight light-years distant; he was eight years older than the light that reached him tonight. . . .

"And now, the first half of our presentation for this evening," said Spencer Mazur, holding his beer can like a standard. "Professor Gaiser, if you'll step this way, please."

Gaiser started to get up from his chair, which was decorated with silver ribbon and dime-store paper stars. He had some difficulty. He adjusted the blue bow on the oversized bottle of Bordeaux at his elbow, checked the fluid level, and one thing at least became clear. *Never tell your students about dry red wine.* "If . . . er . . . one of you will give me a hand?"

They all did, picking chair and occupant up together and carrying them under the darkened dome. Spence was at the telescope controls, his face lit red by the night-vision lights and position readouts, hunch-shouldered and chuckling like Karloff—whom he resembled, come to think of it—and the 150-cm reflector was swiveling, the dome grinding around.

"Hey, *hey*," said Gaiser. "There's a rule about undergrads operating scopes while under the influence."

"Is there really?" someone said.

"I don't know," said Gaiser, "but it wouldn't surprise me at all. *Therefore*—" he pointed a finger at Spence, spoke as rapidly as he could in his red vintage haze—"I do create thee Spencer Felix Mazur an honorary Astronomy graduate until tomorrow morning!"

There was applause. Spence punched one last button, looked up, and said "Do you *mean* that, fairy godmother?" Still in his Karloff voice.

Gaiser said "*Really*, Spencerella. Just remember, at dawn you turn back into a third-year pumpkin."

Spence sucked a knuckle. "Well, then. . . Professor, if you'll assume the position of honor?"

They put Gaiser's chair behind the Cassegrain viewing focus. A Kellner eyepiece, pillowed on a chamois cloth, was passed from hand to hand like a religious object. Two students, their spines ramrod-straight (the only time Gaiser ever saw them so) installed it with drill-team precision (the only time he ever saw that, either).

"And now, Professor," said Spence, without funny voices or theatrics, "a birthday present that only sky-watchers can give each other."

Gaiser looked up through the opening in the dome, and saw the Lyre, and knew.

"A gift from the past, Professor: a trip through the time machine. The light from the night you were born." And then, as if having written the line he regretted saying it, "Dr. Charles Gaiser, this is your star."

The only sound was the hum of the tracking motor as Gaiser bent to the eyepiece.

It was a blue-white disk with an orange speck nearby; an optical double, not a true companion. Not, perhaps, the light of his birth, in fact certainly not—but unmistakably his star, made his in the watches of the night, as he dragged his hand-ground Newtonian to the back yard and in again, catching cold ten times in a season and then defying the fever and chills in search of one more look.

Gaiser's eye stung, but he would not allow a tear to dissolve his view. *Damn tears anyway.* He turned away from the eyepiece, toward Spence, but Spence was gone. Then a door swung open, and a long, ominous tube nosed in: two of the grads were carrying the brown housing between them. Spence brought up the rear, carrying a matching suitcase.

"That's an awfully big one," someone said.

"Biggest one we could swipe from the Physics building," Spence said cheerfully, as the grads set up the laser tube near the telescope eyepiece. He opened the suitcase power supply and began uncoiling cables. "I'd worried about this, just a little, you know. But now that I'm a graduate, I figure it's all right." In a few minutes the device was humming and glowing, and an optical jerry-rig connected the beam window with the telescope.

"For our first message to the Vegans, whoever they are, a sequence of prime numbers. Elementary but cute."

Flash, then, up the optics into the sky, across the void of twenty-eight years by green argon light. Flash-flash. Flash-flash-flash. Five flashes. Seven. Eleven.

"Any suggestions for further edifying communication?"

"Pulsar map of our location!"

"Naw, they'll only come and steal our women."

"How about a woman?"

"What?"

"Sir Fred Hoyle did it in *A for Andromeda*."

"He's a knight. You're only a college student."

"In that case, *several* women."

"Darth Vader sleeps with a nightlightsaber."

Eventually they sent π , Planck's constant, Avogadro's number (with a baroque blip-blop signal for the exponent) and Hubble's constant "since we ought to get astronomy into it somewhere". Finally, in International Morse because what the hell, TODAY IS DR. CHARLES GAISER'S BIRTHDAY. R.S.V.P.

"And they'll get it on your fifty-sixth birthday."

"So the answer should come in on your eighty-fourth."

"Many happy returns of the day, Professor."

Not at all, he thought, *not at all*. It was just as well, then, that there were no Vegans. There was no planet for them. Their star was too young, too intense. Just like Spence.

The dome shutter clanked open, and the dome began turning on its hard rubber wheels. A slice of dim light spilled out, sweeping across the deck and Gaiser. Within the aperture, the dark cylinder holding the secondary mirrors swept by, then the white tubular frame.

A sudden breeze cut through Gaiser's sweater. He picked up his coffee cup, now quite cold, and hurried down the stairs. His star, his star—by morning, he would have a star, and not for one night in years. Tonight he and Natalie would race the dawn, to find a star.

Cameras and eyes used the Cassegrain focus at the tailpiece of the telescope. For instruments, spectrographs, polarimeters, the digitizer, the light was diverted and thrown twenty meters farther down and back to the Coudé focus.

The Coudé room was in a sort of angled bunker at the base of the main observatory. It was a bit cramped, windowless, and lined with instrumentation; a carefully handlettered sign on the door read: **SKYLAB IV: Spacesuits Recommended but Not Necessary**. Inside, Gaiser worked with the lights on. The digitizer was watching the sky. He had only to watch the digitizer.

It was roughly the size of a console television set, though bits and pieces stuck out at odd angles. There were computer components in it, and microselsyn motors from a surplus house in Maine, two vidicon tubes, one of them color, helium-chilled photomultipliers, most of an RCA home video unit, and several lasers, one of them a plumber's-panic tunable dye model that Spence called the "Matter Disintegrator." The whole thing buzzed and crackled and chattered and made fog and smelled terrible from ozone and organic dye, it was broken far more often than it was working, and Gaiser suspected half its parts were stolen.

But when it *was* working, it was the best digital-optical-Fourier

image enhancer in the world, or in orbit around the world. Spence refused to let anyone, even NASA, even ESA, have it until it functioned properly at least most of the time. This despite offers of work, funding, just plain bribe-type money, and one serious attempt to steal the thing (stopped by Natalie with bright lights and a crowbar).

When Spence was ready, the world would have views such as never seen of stellar atmospheres, colliding galaxies, cosmic maser sources.

And dark stellar companions—

But Spence never will be ready. He'd rather play politics, build sky castles, make friends with imaginary astronomers on imaginary other planets. While time runs . . . and runs out.

Gaiser's fist tightened in frustration; his arm bent, and in one horrified moment he realized he might have struck the machine. He put out a hand slowly, brushed a housing with his fingertips as if to soothe it. *Oh no, oh no no.*

The intercom buzzed. "Yes, Natalie?"

"We're getting a print, Charlie. Very clean stellar horizon."

"Strong signal?"

"Five or six more sweeps and we'll be able to assemble a TV image, unless it—" She bit off the rest. "Charlie . . . it's past midnight. Spence ought to be home. I could call him."

"No," he said quickly, then "No," again. From calling Spence it would be a short step to waiting for him. And then waiting for him to check over the digitizer, and test it, while the night faded, and Spence asked too many questions. He was impractical but not stupid, and he might guess what was coming. He would almost have to. And the impractical not-stupid would impractically refuse.

But when the data were in hand, on paper and tape, it would be too late for him to refuse, and Gaiser's Star would eclipse Atkinson's—

"Charlie, I think we're getting an artifact."

Gaiser almost shouted, but checked himself, examined the digitizer, which seemed normal (whatever that was) and said "Limb darkening? A slight chip in the disk, north and right?"

"Yes, that's it."

"I'm coming up."

"Shouldn't you—"

Lindis still had the intercom button down as Gaiser burst in. She pointed at the paper print: a white region, with an occasional period representing a trace source, surrounded a circular block of digits. Atkinson's Star, seen as photons, changed into numbers and those

numbers mathematically transformed. A circle of quantized intensities: eights and nines by the hundreds.

And at one edge, a narrow band of sevens, sixes, a few fives. And, like horns around the dark zone, two tiny triangles: twos, a one, a period.

Something was blocking the light from Atkinson, something with gravity to bend a little light around itself.

A dark companion, a cold star.

Gaiser's Star.

"*You're mine, you bastard!*" Gaiser shouted to the dome slit, the sky. "And from orbit—" He stopped, realizing himself, and turned slowly toward Lindis.

Her hands rested lightly on the table, on the printout. Her shoulders were rigid, and her face seemed to hold all emotions at once: fear, anger, awe.

Gaiser smiled awkwardly. He shrugged. He wondered if she had understood. She was not stupid either. Not that it was any help in the end, being smart. Gaiser was a Ph.D. at twenty-one and a professor at twenty-four, and it had not helped a damn in the end. Only the star could make a difference. Only the star mattered.

Lindis was looking at the telephone. So she did understand. She moved slightly, and Gaiser moved—

She pulled another sheet from the printer, and Gaiser froze. *I thought of hitting her, didn't I. Didn't I?* He closed his eyes tightly, wishing that she would vanish, that time would stop, that he could have one endless night alone to harvest photons, not even needing the digitizer's help, just a telescope in a cold back yard.

"That's the third scan, Charlie. I'm starting the TV feed."

"Yes." He could have done it, but she would do it better. The multichannel tape feed had been midnight-modified almost beyond recognition by Spence (of course) and only a handful of people could get the best out of it; Gaiser was not one of them.

Strike Natalie . . . as well cut off his hand. Either one. Ten years ago her husband, a minor executive in the university administration, had left her and the college, spraying a cloud of tasteless jokes about sleeping in the daytime. She had moved into the small observers' residence just within the nearby pines. Somebody had tried to turn it into a college-widow scandal just like the good old days until the faculty, and not just the Astronomy faculty, made it quite clear whom they appreciated having and whom they did not miss.

Cut off a hand? Pluck out . . . an eye. Though for the star, he might have. That was terrible. He might yet do it. That was worse.

Broad raster lines streaked across the color monitor screen. In the center of a gray field was a rough disc of lighter gray. "Looks like a Tums commercial," Lindis said, and looked sharply at Gaiser; he was careful to smile.

The screen swept again, more slowly and in finer strokes; the edges of the disc smoothed slightly, and the background darkened.

Another sweep: sharper edges, more contrast, a faint pinkishness on the disc.

"There's the darkening. The occultation. Do you see?"

Lindis said "I . . . think so. Give it a few more scans."

Midway down the image, the scan line bent, wavered, sketched crookedly, slicing the lower half of the star like a Gouda cheese; slice, sweep, and the entire picture broke up.

Gaiser ran to the Coudé room. Something on the digitizer made staticky noises, and one of the gas lasers stuttered; videotape unspooled onto the floor as if the machine were bleeding black. In a fury, Gaiser hit the intercom button, and heard:

"Spence? Natalie. The digitizer's broken down again, I'm afraid. What? Yes, he did. We had some interesting results coming in. I don't know . . . Charlie's down there now."

Gaiser waited for her to tell him the rest, but she just said "One of us will be here," and hung up.

He pulled the power cutoff, and the sounds and lights died, but not the smell. He walked quite slowly back to the dome.

Lindis was straightening the printouts. She ejected the videotape cassette, broke out its erasure locks, and labeled it with careful, neat handwriting: PROF GAISER—SPECIAL OBSERVATION.

"Spence's coming, but his car's charging and he'll be on his bike. Do you want to go on home, Charlie?"

"I'll wait."

She sighed. "All right. I'd better get some sleep so I can help him later on. Will you want one of the residence apartments? They're all empty."

"No. I'm going home, afterward," which was indirectly the truth.

"Yeah, afterward." She scratched her temple, where the brown hair was graying. She looked up at him, and again there was that bright-line spectrum of feelings. "Don't kill him, Charlie. He can't fix the toy if you kill him." From the spectrum, then, sorrow flared like laser light, and she turned from him and walked away, leaving the table very neat.

He said nothing, because the one thing that might have mattered he would not tell her, not until he died, and perhaps not then.

When Spencer Mazur finally came in, he looked more like the Monster than Dr. Frankenstein. His eyes were pouched and his short blond hair was tangled, and his arms and legs swung oddly from the long bicycle ride and the hill climb.

"What's happened?" he said.

"What do you think's happened?" Gaiser struggled with himself. "Look, Spence, is it too much to ask that you assemble the thing to work, instead of with spit and good intentions?"

Mazur smiled unevenly. "I keep trying to tell you, Charlie, there're as many good intentions in it as engineering. It sits on a thin fence between classical and quantum mechanics, and I don't know which way it'll fall. When I *can* make it work, I *will* make it work. Have you got it powered down?"

"Of course."

"Natalie said you were getting some good stuff when it crapped out. Can I see?"

Gaiser showed him.

"Natalie wasn't kidding. You've got a real occultation here . . . I think."

"No thought on your part is necessary," Gaiser said calmly. "I predicted the presence and location of a dark companion for Atkinson. There it is."

"Well, there's *something*. Maybe it's a cold star. Or maybe it's a planet."

"And maybe it's inhabited, is that it?" Gaiser burst out. "And we can waste some time and money shouting, 'Hi there, we're civilized,' at it?"

"Yeah, well, that's one of the messages." Mazur was grinning. He would grin in the teeth of the tiger.

"Dammit, Spence, while you're out playing Emperor of the Universe some of us are trying to do some serious science."

A wavering of the grin. "I'm just as serious as I can be, Charlie. We're going to build the habitats. And if there's someone out there to contact, we'll make contact."

"You'll be dead before a bean gets planted or a word spoken." *There, I said it.*

"Maybe. But they'll plant the bean because they welded the steel because we made the noise and crunched the numbers—Charlie, what in hell has come over you lately? What's happened to your *vision*?"

"You'd better fix the digitizer properly this time, Spence," Gaiser said coldly, "because next month it's taking a Shuttle ride. I've lent

it to NASA for six months in exchange for some Space Telescope time."

The grin died. "It—it isn't yours to lend to anybody."

"You're *my* post-doc, and rank hath its bloody privileges. It's got no patentable parts because you don't understand them, as you keep telling me. The work was done on University property at University expense, and damn few of the administration understand what you're so secretive about."

"I'll—"

"You'll what? You won't smash it; I know you can't, any more than you could strangle a kid in its crib. You haven't got the time, let alone the clout, to make any sort of complaint stick." Gaiser strained the desperation out of his voice. "Look, you couldn't ask for a better deal than I've gotten you. All they get is some output from the digitizer, hooked up to the Large Space Telescope, for six months. They can't examine it, pick it apart, or blueprint it. After that, no strings, no extensions. In return you get a permanent place on the LST user list, and a pretty fair amount of cash."

"Who operates it, if they keep hands off?"

"You do, if you'll go. Otherwise I do."

"And will I go?"

Gaiser looked at the dome aperture, was startled to see it pale blue with dawn. A perfect night gone forever. He saw one star remaining, pointed to it. "Yes, you will. If you weren't an astronomer at all—which you are—you'd go, because of what else you are."

Spence leaned against the wall, his head tilted forward, his eyes completely hidden by his thick orbits. He began to sniffle, suppressed it. "And what do you get, Professor?"

He hasn't called me that since— "A chance at the Telescope, that's all . . . but absolute confirmation for this." He poked at the papers, tried to laugh; it came out a dry rustle. "They didn't care a damn about me, not really, but they asked for preliminary data, anyway . . . and now I've got it." He touched the sheets again. "It won't help you if you burn these, you know," he added, watching closely.

"But you know I wouldn't do that either, don't you?" Spence said from a clogged throat. "I didn't think . . . crap no, I never did think at all, did I." He looked up, and his eyes were gray, and red, and black. He looked out the dome slit. "Morning already. Guess I'd better get to work."

I'm sorry I had to do it this way, but— and Gaiser could not think that thought any more; that *but* contained all the evil and deceit in the world, and the want, the *need* to tell the truth boiled in his brain

and pounded in his veins, but he would not speak: because he would rather—

"Hadn't you better go?" Spence said with deadly quiet. "It's daylight. Past an *optical* astronomer's bedtime."

—rather be hated than pitied. Well. He had succeeded in that.

He got into his car and drove away, but not home; he had an appointment for the early morning.

"Mr. Green, your condition—"

"You're the fourth doctor I've seen in eight weeks," Gaiser said, "so whatever you're going to say, say it plainly."

The ophthalmic surgeon nodded stiffly. "As you say, then. You have primary, bilateral atrophy of the optic nerves, following a severe papillitis. A lot of things can bring on papillitis. Sometimes we never learn what really caused it, though from what little you've told me I suspect your 'fever' last fall was a subacute meningitis—"

"I don't care where it came from. I want to know where it's going."

The doctor tapped his fingers on his desk. "If you'd been told before that it was curable, you wouldn't have gone to four doctors. I'm very sorry, Mr. Green, but I can't help you. And while I hesitate to say this—"

"Anyone who says differently is a liar."

"Overoptimistic, I'd have said. But that's it."

"How long before blindness? Be honest, not kind."

"Depends on what you mean by blindness. Do you do fine work, Mr. Green?"

"I—essentially."

"A year, then, before you can't at all. Possibly a few months more. Possibly much less, if you develop a large central scotoma—that's an area of blindness in the middle of—"

"I know what it means. I have some small ones."

"It can happen pretty fast. Especially if you're under stress. I know how this is going to sound, but if you can imagine *not* being under stress . . . that'll give you the most time."

Gaiser touched the pillbox in his pocket, then realized he was talking to a surgeon. *Cure it with the knife or it can't be cured.* "One more question. Could this have been prevented if it had been . . . noticed earlier?"

"I can't answer that."

"Try."

The doctor tilted his head, just slightly. "All right, if you insist on hearing it. If the primary cause was really a meningitis, then

probably yes. If not, I can't even guess."

He had indeed needed to hear it, just one more time. "Well. Thank you, doctor, and good day. Sorry to have wasted your time."

"You haven't," said the surgeon, and as Gaiser stood to go he stood as well. "Mr., ah, Green."

Gaiser waited.

"There's a lot we can do, now. Last week I gave someone new corneas. Two days ago I cleaned out an eye opaque with blood. Tomorrow I'm going to weld a woman's retinas with a laser. They're trying very hard to do something with the optic nerve, and maybe very soon they will. Keep that in mind, before you do anything . . . final."

"Your concern is appreciated." *It hurts you, doesn't it? You like making the blind to see, and when you can't it hurts your pride.* He paid the receptionist—cash, anonymously—and left. *Looks like I'm going to hurt everybody I touch, before this is over.*

Before I do anything final.

Gaiser rolled over in bed for the three- or four-hundredth time, pulled his pillow down, pushed it up, tried to roll again and could not; realized the sheet was wound tightly around his legs. He freed them, let his head drop back to the pillow, lay very still. Every joint sent a message of compression, strain. He seemed to hear them all creaking like timbers in a gale.

Joint pain . . . he touched his forehead; it did not seem hot. No, not fever this time. He was just too awake to sleep, just as he was too tired to rise.

But there's no time to sleep. Too much to do. Later, all the time for sleep . . . all the sleep there is.

He sat up on the edge of the bed, eyes partly open. A bright ribbon ran up the wall, light leaking around the edge of the thick velvet curtains. Little specks danced in his view; the room seemed like a grainy photograph. *Call Kodak, maybe they'll know what to do. "I'm having pinholing problems, severe image degradation. Old batch of film? Well, only thirty-six years . . ."*

He got up, finally, dragged on battered slippers and a frowzy gray robe, kicked some odd socks aside and wandered through the dim house. He put coffee on, opened the refrigerator and looked at some eggs for a couple of minutes; decided that was breakfast enough and closed the door.

His wristwatch beeped. First the mail, then the pill. Pulling his robe tight, he closed his eyes against the sunlight, opened the door

and groped inside the mailbox; tucked the envelopes unseen under his arm and went to the bathroom to get a tablet from the bottle.

He settled down behind the living-room desk and scanned the mail. Advertisements; a technical journal; a piece of NASA stationery, with W. SMITH typed in the corner. He tore it open.

Large Space Telescope Projects Administrator Warren W. Smith wishes Dr. Gaiser the best of success with his forthcoming experiments, subject of course to preliminary confirming data as per agreement (*nearly forgot that, didn't you, you bastard*) hopes that Dr. Mazur would see fit to accompany his . . .

A muscle in Gaiser's temple became painfully hard.

. . . and would Dr. Gaiser please make an appointment for a Shuttle-passenger physical, cursory of course but of course required? Hoping you are the same, Warren W. Smith, Sniveling Sycophant in Chief.

Gaiser sat back in his chair, not relaxing. He pulled the pill from his robe pocket and took it with coffee.

Across the room was a brass telescope, battered and tarnished, on a simple rod support. Engraved on the circular base was the name *Galileo Galilei*.

Gaiser and Spence (the latter with the new-car smell still on his doctorate) had gone to Florence five years ago for the Deep-Sky Conference. On the second day one of the delegates—who had it been? Oh yes, Cortillo from Arecibo—had shown up with a magnificent historical discovery: Galileo's own telescope, signed by the builder. It had been hidden away, it seemed, in a small antiques shop remarkably close to the Conference hotel.

Gaiser looked at Spence. Spence looked back. The following morning Cortillo was chairing a panel on hydrogen masers. When the panelists arrived, in front of every seat but the chairman's was one of Galileo's own original telescopes. Cortillo had a brass radio dish instead—signed by Galilei.

Eventually nearly every delegate went to the gratified but bewildered antiques maker for a Galileo original. Years later, Cortillo's letters still referred to it as the "Galilei Memorial Radio Astronomy Conference."

And they had side-tripped to Switzerland and bought the cheapest watches imaginable, mailing them to Natalie under an outrageous declared value as "precision chronometers;" and shot the sun with sextants through the airplane window, alarming the stewardesses; and. . . .

And that was only two weeks in Europe; now they were going to



spend six months in orbit together, and there would be—

Nothing. Possibly not a word spoken.

How did I get here? he thought, so angry that his fingers arched and his head turned with the tension. Was he mad then, or was he mad now? Whichever, here he was despite all anger, knee-deep in the Rubicon, reaching for the dark reflection of a star.

His look fell on the letter in his lap: . . . hope that you can persuade . . .

Per (hazy blank) de.

He shuddered, but no tears came to further steal his sight.

He picked up the telephone.

"What do you mean, Charlie, 'waive the physical?'" Alan Paget, NASA flight physician, was short and dark and pleasant. He was two years older than Gaiser; they had known each other since college.

One more friendship down in flames. "Al . . . you owe me one."

"I guess I owe you more than that. I'd have never gotten through med school without you. I'd have been hung over a lot less, but I'd never have made it.

"But the physical—hell, it's not like you were going to fly the bird.

We'll just check your heart and your blood pressure and your teeth and eyes—"

"No."

Paget shook his head. "I can't waive it, Charlie; nobody can. Rules. We've had to ground people who—"

"You can say you've passed me." Gaiser stood up, turned to face the wall, not wanting to see what he was doing. *That's the worst part. I know what I'm doing, and I still do it.*

"What? This is a joke, right? The urine samples will be brake fluid, and the blood'll be tomato juice and Pepsi? When you called, I figured, ah-hah, Charlie Gaiser's got a royal one set up this time—"

"It's no joke. You can fill in the papers and say I'm clean. It shouldn't be so hard. I remember how you used to."

"Hey, Charlie—"

"Just do it! You owe me, Al—"

Gaiser's watch beeped. Automatically he pulled out the pillbox, then stopped cold, betrayed by time again.

"What are those, Charlie?" Paget said quietly.

"Nothing," he said, like a little boy. Then he turned. Paget was leaning forward on his desk, eyes intense. He was a good doctor, Gaiser knew, and at least as good a friend. Damn it, wasn't there anyone mean or petty or stupid he could use instead? *Oh, fine, fine thought.*

He put the box, very gently, on the desk. "Prednisone," he said. "Five milligrams four times a day."

Paget looked at the box as if it were a crawling thing. "I can't send you up on steroids, Charlie." He looked up at Gaiser, searching Gaiser's face. Gaiser tried to turn away, but Paget's eyes held him. "How long have you been taking those?"

"Eight weeks."

"What for, Charlie? Arthritis?"

Gaiser stood still. Paget got up, came around the desk. Gaiser stepped back, but Paget reached out and touched him anyway. "For godsake, Charlie, you'll be in orbit for six months. Arthritis can kill you up there, if you need to get in a suit and you can't. Is it arthritis? *Tell me.*"

Gaiser looked away. "Will you pass me?"

"I swear I *won't* if you don't tell me what's wrong with you."

"Will you *pass* me?" said Gaiser, torn in two.

"Not to kill yourself, Charlie."

Gaiser's mouth fell open—he can't know, he can't—but my friends are none of them stupid—

And, as a dam bursting, he told Paget the truth.

In the silence after, Paget went back around his desk and sat down, staring at the pillbox. After whole minutes he said "I'll . . . get you aboard, Charlie. Don't worry about that. And I'm . . . oh, never mind."

Gaiser said "Thank you," aware of how hollow it sounded, and reached out for the pills. Paget stopped his hand.

"I want you to quit taking those. Not all at once, but gradually. Take one less a day every week. You wouldn't have been able to get them on the bird anyway."

"Is that your price?" Gaiser asked, confused, angry, knowing a secret spoken is gone forever, not wanting to be a blind man before his time.

"Charlie, after the papillitis, I can't see as they'd help you at all. They're no good for the atrophy. And . . . sit down, Charlie, please."

Gaiser sat, knees together.

"Charlie, do you remember Julie Berryman? The Chem major with the arthritis? Do you remember the night you talked her off a ledge, deadstick all the way?"

"I . . . suppose I do. I—remember all kinds of things, lately. I remember everything I've ever seen, it seems like. I'm tired of remembering, damn it. I'm going *blind*, and pretty soon it's going to be nothing but remembering—"

"Charlie, listen to me. Have you ever heard of steroid psychosis?"

"I don't know . . ."

"Julie was depressed, and when her hands got too sore to type she got clever and took a double dose. *Listen*, Charlie. The stuff picked up her depression and ran with it, clear into the end zone. But you brought her back. I can't forget. Will *you* remember . . ."

Gaiser leaned back, pressing his head deep into the seat cushion, eyes closed and aching, remembering Julie but not thinking of her, thinking instead of the tension, the pressure, the umbilicals of his eyes flaking away, of the darkness broken by tiny lights from which each photon was precious. He did not know if he could ever return to earth again; and even if he touched down softly, he did not know what message he could send its inhabitants.

"Natalie!" Gaiser shouted as he shoved open the observatory doors. She was not in sight. The Telex was shrouded, the desk lights out, no coffee hot. He mashed the master intercom button. "*Natalie!*" It rang through the whole building.

Gaiser looked into the workshop; the bench was bare. He opened the door to the Coudé room. The digitizer's multiple housings shone,

red and green and eerie, under instrument lights. It had been fixed, and then some. There was no more slop in the couplings, no irregularity or signs of jerry-rigging. Gaiser was quite sure it could be tossed into a shuttle and fired skyward without a bolt loosening. He hit the intercom again. "Natalie, I need you!"

She appeared, wearing a long wool coat and an all-pockets vest stuffed with eyepieces and tools. "Where have you been for two weeks? You never told anyone—"

"I need the tool kit and a dolly," Gaiser said quickly. He spanned the digitizer with his hands. "Is the van charged? I don't know if it'll fit in my trunk."

She did not move a millimeter. "You're not taking it anywhere tonight. You may get away with it in a few weeks, but not until."

"And who's going to stop me?" he said, suddenly a little frightened that the chemical madness still ran in his blood—but knowing this time, and master of it.

"I am, Charlie."

"Oh, I'm glad you said that, you wonderful—" He put both hands on her shoulders and kissed her. Her jaw fell open. "Natalie, when's Spence's birthday?"

"His—April, I think."

"We'll be early. It's all right, it'll be a small party."

"I don't . . . oh. Oh yes, I do!" She smiled with her whole face, and though to him her right eye was only a blur it was the most beautiful smile he had ever seen. "There's a dolly around the corner. I'll get the tools. Oh . . . I left a 3-inch on the deck."

"Leave it. It's gift night; maybe the good fairy will leave us a bigger one."

"Charlie—"

"Yes?"

"Welcome home, Charlie."

Spence answered the door decently but incompletely dressed. He saw Gaiser, said "Sorry, no panhandlers," and began to close the door; then he noticed Natalie, and the thing behind them both.

"I don't understand," he said thickly.

"It was the biggest one we could sneak out of the observatory," Gaiser said.

"Now I *really* don't understand," said Spence, as they rolled the digitizer into his living room.

"Allow me to explain, Doctor. Do you see this component?"

"Sort of . . . it's the time-base coupler."

"Almost right. It is the one and only Mazur Time-Base

Coupler . . . Patent Pending." Gaiser held out his hand, and Lindis filled it with a long legal form. "Dr. Spencer F. Mazur . . . this is your patent application."

"But that's not a patentable . . . it's just a modification . . ."

"The University doesn't know that. Neither does NASA. And by the time they find out—"

Spence sat down. "All right, Professor," he said unsteadily, "Why? Why now?"

Gaiser was silent. *It didn't work. I pushed him too far. You can't come back from the edge—*

Natalie said "Spence, do you really need to ask?"

Spence looked up, and looked at Gaiser, and laughed: his high, loose, mad-scientist laugh, and Gaiser hovered between Heaven and Earth until Spence said "No, Charlie. Not at all. Thanks, Charlie, thanks." Then he stood, said, "Does this mean we're not going to the big playground in the sky?"

"If it's yours I can't take it . . . and if it doesn't go, I most certainly don't. Warren Smith doesn't know yet . . . it's going to be fun, telling him he's got to deal with you as a real person now."

"I can hear the air burning. But don't." Spence opened a cabinet above his television set, took out a video cassette. "Once I got the digitizer working again, I had to spite you and your cold star. I was just sure as hell it was a planet, so I hooked her up and scanned three nights straight." He tapped the cassette. "And do you know what? It really is a dark star. No doubt about it. However . . ."

"Well?"

"There is what *appears* to be a pulsed maser source on the edge of Gaiser's Star, almost invisible. The only reasonable course seems to be to take the observations into orbit, to determine the exact nature of this artifact." He blinked. "Until then, I shall refer to it as—" Boris Karloff again—"a repeating Mazur maser."

Natalie bounced an Allen wrench off his head.

They went out to watch the stars, visible and invisible. Gaiser lost a few, drifting in and out of the blanks in his view. He would tell the others soon, but not now. Sometime in daylight.

And perhaps when he lost them all . . . he would help to make a few; crunch some numbers, make some noise, so that the steel and the seeds would follow.

Perhaps he would speak to the beings that lived on his star.

Spence had asked, not meaning to hurt, what had happened to Gaiser's vision.

Only everything; everything that could.

ASK PENNY JUPITER

by Ron
Goulart

art: Derek
Carter





Mr. Goulart has put Agent Dan Tockson to work again; we last saw him in these pages back in January of 1979.

What I've been up to, sir, is more in the line of detection and heroics than fraternizing with the opposition.

Not, mind you, that I'm denying you saw whom you thought you saw in my suite down here in the Omaha Sector while I was attempting to pixphone my prelim field report in to you. She wasn't, as you accused while you were thumping your chest and hopping on your desk, traipsing around mother naked. I can understand how, in your present condition, you might not be as up on current fashion as I am; but you ought, even with those little beady eyes you have now, to be able to differentiate between a fleshtone bodysuit and mother naked.

Perhaps this toktyped report will reach you when you're in a more receptive mood. I am, by the way, really sorry your desk cracked asunder while you were leaping up and down on it. When you're calmer, sir, I'm certain you'll realize I am in no way responsible for that particular accident.

Just as it wasn't my fault you ripped your suitcoat all up the back during my visit to your new office in DC-2 earlier this week on 19 July 2020.

You were hunched at your desk, watching something on a little portable cazplayer when I came striding in, exactly on time.

"I like that fuzzy licorice-colored design on the walls, sir," I remarked, saluting snappily and settling into a lucite chair in front of your lucite desk.

"That's mildew, Agent Tockson," you snorted, glancing up from your viewing and making an angry fist with your paw.

"Well, that's only to be expected this far underground," I said, smiling cordially.

"Why are you continually smirking?"

"Actually, sir, it's a cordial smile." I leaned toward you. "You're not still feeling peevish because I'm tall and handsome, not to mention relatively young, whereas your brain is now stuck in the body of a lumpish gorilla as a result of an unfortunate teleport acci—"

"You aren't handsome, Daniel. You look like a simp," you told me in your growly gorilla voice.

I decided to change the subject. "What are you watching?"

"A caz of last night's *Potboiler Theatre* telecast," you replied, picking up a banana from the large bowl of them. "It's Part II of *Gentle-*

man Junkie, quite touching."

"I haven't watched an Erudite Network show since *Hack Playhouse* did *Tarzan of the . . .* in quite awhile, sir."

You stood, beetling brows growing even more beetling. "You can say ape in front of me, Daniel," you rumbled. "I am completely adjusted to the fact that my brain got switched into the body of a gorilla while I was teleporting to—"

"You ought to, as I've previously pointed out, think of the poor gorilla who got stuck with having his brain in your old body," I said soothingly. "It can't be too easy for him to swing through the trees using your flabby arms and—"

"Gorillas don't swing through trees. They walk upon the ground."

"Are you sure?" I inquired. "Well, yes, I suppose you would be by now. You mean you've never once swung from the limb of—"

"There aren't any trees down here," you said. "We are five stories below ground, under Washington DC-2 in a refurbished missile silo that our enlightened government has seen fit to stick—"

"We ought to be in favor of any move which saves the taxpayer money, sir. After all, as dedicated agents of Product Investigation Enterprises, we stand squarely on the side of the consumer against waste and big busi—"

"Shut your bazoo," you observed.

"You're growing somewhat, has your wife ever mentioned it, crude in your—"

"Shut your bazoo. Stop wiggling your keaster. Attend to what I am going to say."

I smiled. "I still find it amusing to have a gorilla giving me my PIE assignments. I mean, you don't expect a gorilla to come up to you and say, 'Now hear this,' or—"

"I have," you snarled, standing and pounding on your broad gorilla chest, "an assignment for you."

"Some new product or service that's hurting the consumer?"

"Some product that may even be murdering a few of the poor boobs."

"Sounds serious."

"I want you to get down to the Omaha Sector of . . . excuse me." You returned your attention to the still-going little cazplayer. "What lovely ankles she has."

Although I couldn't see the screen from where I was sitting, I could hear the familiar Socko Sox jingle. "You mean that nubile teenage model, Pamper Bumlin?"

"Hush."

"How come they're running a commercial on a listener-supported network like—"

"She has a most provocative instep."

"I would've guessed you'd go in only for hairy feet now, sir."

"They're running this spot because Pamper Bumlin is going to be appearing on the Erudite Network's fundraiser auction this Thursday," you said. "A plucky kid, considering."

"Considering what?"

"That her stepfather, Bongo Meech, may have been murdered by a crazed android."

"I didn't see anything on the newswall about his death being anything but an acci—"

"It's being shushed up, along with the other possible knockoffs, beatings, and all sorts of foul play."

"You alluded to androids; could it be the Penny Judi—"

"I have a report from the Omaha Sector of the Heartland Area that the Penny Jupiter andy in use at the chain restaurant there is, possibly, doing odd things."

"Figured it must be one of the Ask Penny Jupiter Psychotherapy Restaurants," I said. "Since Pamper Bumlin is rumored to be having a torrid romance with Monty Jungel, Jr., scion of the whole Penny Jupiter operation and—"

"Girls barely into their teen years don't have torrid romances," you observed with a customary snarl. "Now get down there at once, Daniel, and check with our informant, Greasemonkey Griffin, who—"

"Is Greasemonkey in the Omaha Sector now? Last I heard he was tracking pinball machine forgers over in White Africa-2 for the—"

"The Jungels have a couple thousand of their busybody andies in operation across the land," you cut in. "If they all start doing what Greasemonkey claims the one in Omaha is doing it will be a disaster for the halfwit consumers of America. Before we crack down, I want you to check this out thoroughly. Also swiftly. No dawdling the way you did on the kelpburgers case."

"Going to a hospital to have a broken leg set isn't exactly dawd—"

"You broke your halfwit leg leaping out the rear window of a skymotel over the Glendale Sector of Greater Los Angeles because the husband of a—"

"It really isn't my fault, sir, if I happen to be highly attractive to women, especially women of intelligence and above av—"

"Go to Omaha!" you urged, rearing up and pointing at the exit.

The force with which you made the gesture caused your jacket to rip across your massive shoulders. "Get out of here, Daniel, before you cause me to wreck something else I value."

As gracefully as I could, I left my chair and strolled to the doorway. "A little vinegar and warm water, by the way, will work wonders with that mildew."

"Aaaargggghhh!" you replied.

"Actually it is homemade pie," I was explaining to Greasemonkey Griffin. "That Penny Jupiter android lives in this restaurant."

Greasemonkey, a small restless man of forty-one, was scowling down at the wedge of steaming pie in front of him and reading aloud the ingredient list that, according to wise FDA rulings, must appear in edible ink on each and every slice of restaurant pie. "Well, Dan, my mother, rest her soul, wasn't an android, although she was a cyborg of sorts, which probably explains my interest in gadgets and my lifelong dedication to seeing they serve us well, because if you'd grown up, which it's unlikely you did, even though I don't know much about your youth and upbringing, being patted on your tousled head by loving tin fingers, then you—"

"Grease," I mentioned, "we've been in this Ask Penny Jupiter Psychotherapy Restaurant for nineteen minutes now. I've ingested a full course of garbage, but I have yet to witness one single incident that—"

"I don't understand it either," he said as he prodded his pie with his plazfork. "Only two days ago, when I was here investigating rumors about serious malfunctions in their Penny Jupiter android, the old lady was coldcocking customers to beat the band. She tossed one fella clean across her parlor into—"

"Nix," I whispered warningly.

Penny Jupiter, the Omaha Sector one I'd come here to investigate, was waddling over to our knotty pine booth. "You boys surely look down in the mouth," she said in her warm motherly voice. "Anything I can do to help?"

"We're in tip-top shape," I assured the plump, greyhaired mechanism. "We only came in for some of your wonderful homemade food, Miss Penny."

"Sure now, hon?" she asked, tucking me under the chin. "Law me, you've got a hangdog expression on that handsome puss of yours."

"On my last US vidwall psych scanning I got a rating of Disgustingly Normal."

"Not having trouble with your girl?"

"Not at all," I replied. "Although there was a waitress out in the parlor section when we came in who vaguely reminded me of . . ."

"Of whom, hon?"

"Nobody really."

"Wellsir, I surely won't force my expert advice on you," she smiled, adjusting her rimless spectacles. "Whether you dine in my parlor or here in my big yet cozy kitchen, you're free to do as you want. If you want only eating and no guidance, that's jim dandy by me." She rested a plump pink hand on the edge of our table, leaning closer to me. There was a strong scent of cinnamon about her; and, even though I knew it was being exuded by tiny ducts behind her plaz ears, I felt a touch of nostalgia. "See that big Venusian over there enjoying one of my corn fritters? Don't look right at him. . . . Anyway, he just now confided in me he was homesick for his native swamp. Wellsir, I took his tentacle in my hand and told him, 'Shucks, Njirl Klmij Dzank . . .' All them Venusians have silly names like that. 'Njirl Klmij Dzank, you wouldn't be a normal alien if you didn't miss your home now and then. But, golly, you're a big boy and you got to buck up. Nothing's as bad as it seems. After you've been in Omaha Sector a bit longer, why, you're going to love it nearly as much as that old smelly swampland.'"

"Sound advice," I said.

"He thought so, too, sonny. It did my old heart good to see them little purplish tears of relief and gratitude come oozing out of his tiny yellowish eyes." Penny Jupiter smiled and straightened up, brushing at her spotless apron. "Well now, I've got a potential suicide over in Booth 16 to tend to. Nice chatting with you."

After she'd left us, Greasemonkey said, "Something's wrong."

"Could be they repaired her."

"No, it takes a month to reprocess a Penny Jupiter," he said, frowning deeply and bouncing on his bench. "They have to ship them to the nearest Service Depot, which is in the Orlando Sector of Sunnyland-2."

"She's been behaving quite maternally," I said. "Hasn't punched one ne'er-do-well, certainly hasn't murdered anyone."

He hunched, voice lowered. "The murders I only have hearsay evidence of. Those happened, according to a police contact who got a look at the reports before they were suppressed, after hours and not here. Nights that sweet old mechanism has been sneaking off to pass out justice as she sees it."

"This must be a ringer then." I glanced across the white and yellow kitchen. Penny Jupiter was, gently, wrenching a kilgun out of the

hand of a sobbing skysailor.

"Has to be," said Greasemonkey. "You better come out to my farm to see the vidtapes I—"

"You live on a farm now? What happened to your collection of authentic 20th-century gadgets?"

"They're stored in my barn. This is a completely mechanical farm, purely decorative, out in Homestead Village," explained my informant. "I've added some great 1940s pinball machines since I saw you last, Dan. One is called Hiroshima Bomberoo and when you—"

"Let's go see the vidtapes," I said, rising.

These next events, sir, number among those you've misunderstood. I wasn't cavorting in a hayloft with the opposition. I was, I admit, in a hayloft with Kassy Gulliver, ace operative for the Anticonsumer Agency. Cavorting, however, we weren't.

At Greasemonkey Griffin's farm I had been viewing his secretly-made vidtapes. For footage taken with a miniature vidcam concealed in an elbowpatch of his two-piece plaid casualsuit they were quite good, though a bit tweedy around the edges. I noted several things of interest, most of which he had missed. The Penny Jupiter in these films, the greyhaired old andy who picked up a prodigal husband and tossed him clean across her parlor, the motherly mechanism who delivered a half dozen hearty chops to the flabby neck of a skytrucker who was a self-confessed honkytonker, that feisty and short-tempered android was not the same one we'd been jollied by at the Ask Penny Jupiter Psychotherapy Restaurant. There was a very slight dent on the forehead of this one who had so little patience with wayward husbands and restless wives. Obviously we'd met a substitute at the restaurant; the real defective Penny Jupiter was elsewhere. Stashed probably at the repair depot in Orlando and still a potential danger to the consumer.

I noted also that your favorite sox model, Pamper Bumlin, dined frequently at the local APJ. Always on the arm of Monty Jungel, Jr., the pudgy heir to the whole setup. Although most of Greasemonkey's shots concentrated on the young lady's provocative ankles, she didn't seem to be mourning her late stepfather too much. Pamper was, as you know, going to appear on the Erudite Network's big video auction at their central studios in the Omaha Sector.

While Greasemonkey was rewinding the vidtape to show again, I became aware of some unusual sounds from without his pleasant farmhouse.

Bonk! Moo!

Bonk! Moo!

Whirr! Fritz!

Whirr! Fritz!

"Somebody's knocking over my robot cows!" Greasemonkey dived for a window.

I followed. "Who are all those tots on the motorized tricycles?"

Roaring toward us across the field of syngrass were dozens of little children. None more than six years of age, mostly boys. Each was hunched at the controls of a powerful mechanized trike; each glowered and swore and wore a black beanie with a skull and crossbones emblazoned on its front.

"Jelly Babies!" Greasemonkey flipped on his secsystem.

"Beg pardon?"

"Local gang of killer kids," he amplified. "They hang out in the Less Acceptable Nabes and sometimes they raid respectable areas."

"This is no coincidence," I said. "The Jungle family is behind this raid."

"Meaning these little buggers are after the tapes."

The first wave of grimfaced tots was pulling up in front of the farmhouse. Their obvious leader, a one-eyed little fellow of six, swung off his trike and waved his kilgun at us. "Toss out the tapes, you poopooheads!"

"We'll count to twenty... make that ten, since it's easier," shouted another Jelly Baby. "We'll count to ten an' if you peepees aren't out of there with the cazes, we'll burn your poopooing house."

Grabbing the caz out of the vidmachine and gathering the others off the soycaf table, I concealed them under my tunic. "Is there an emergency exit?"

"Go out through the kitchen and into the barn. In the barn floor, under the bales of fakehay, there's a trapdoor. That leads to a tunnel that'll take you to the nearest subtram station. You take off, Dan, and I'll hold off these little putzes."

"Risky."

"Naw, I've recently installed, at considerable expense, although not really when you gauge the intrinsic value, an array of new anti-break-in gadgets," he said. "This will afford me a nifty opportunity to test them all, to determine if each one operates, considering how even the most reliable of manufacturers tends to distort and—"

"I'll be going then." I pivoted and ran.

I was out in the barn and reaching for the latch on the floor panel when I sensed I was not alone. Whistling calmly, I proceeded to open the trapdoor.

From behind me a voice said, "Save yourself the tram fare, Dan."

I turned to face Kassy Gulliver. It's difficult to convey to you the effect that she has on me, sir. Perhaps if you were to imagine how you'd feel when meeting the most beautiful lady gorilla in the world, you'll have a notion of what I mean. Even though Kassy is my sworn enemy and working for big business forces which intend absolutely no good for the consumer, I find her attractive. She is a pretty, blonde young woman, slender (although far from being "railthin" as you keep putting it) and all in all very appealing.

"Those infant hoodlums are in your pay?" I asked.

"Yes, Dan," she replied with a fetching smile. "Hired to create a noisy diversion while I snuck in the back way to grab those vidcazes."

"How'd you tumble to the tapes?"

"C'mon," she said, laughing. "Greasemonkey is far from the deftest spy you've got. All those contortions with his elbow were spotted on his first visit to the restaurant. But I wasn't free to get into this case until today."

"No doubt you were elsewhere doing harm to the consumer's best interests."

"It's too bad you're such a prig, Dan, because otherwise, as you well know—"

"You can call me a prig and your hired minions can label me a poopoohead, Kassy," I told her, shoulders thrown back and chest out, "but you know darn well I'm on the side of right and you're not."

Did I mention she had a stungun in her lovely right hand and a Fakechoc Sugarola Bar in her left? She did. Waving the gun at me now, she said, "See that rope ladder up there dangling through the opening up in the hayloft?"

I hadn't, but I did now. "I imagine it leads to that fuelguzzling skycar you insist on using."

She took a bite of the wretched candybar. "Climb."

"There's one of your big troubles, Kassy," I pointed out as she used the gunbarrel to prod me toward the ladder. "All this junk food and garbage you take in is affecting your brain and causing you to take the wrong moral side. A recent article in the *New England Journal of Junk Food Addiction* shows quite clearly the connection between—"

"Upwards, Dan."

"Where are you kidnapping me to this time?"

"We only want you out of the way for a few days. It'll be, if you adopt the right outlook, more a vacation than anything else."

"Keep me quiet while you repair the defective Penny Jupiters, huh? How many are there around the country doing harm?" I reached up to grab the ladder rung just over my head. "Don't you realize the crackpot mechanism you people had in the Omaha restaurant may be responsible for several deaths? She had a defect which made her do violence to those who were doing wrong, thereby—"

"We've caught the flaw in time; there won't be any more trouble. And this Penny Jupiter is the only one to develop this particular flaw." She gave me another nudge with the gun. "A few bribes to the local law will keep the worst details out of the press. Start ascending, Dan."

"Don't count on keeping this hushed up!" I pulled myself swiftly up, then twisted in midair and kicked out at what I judged to be her gunhand.

For some reason, however, I miscalculated and booted only her junky candybar from her grasp.

Before I was able to deliver a second kick, she used the stungun. **Zzzzzummmmm!**

And that, sir, was the only cavorting done in that barn.

The office was quite attractive, paneled in a very expensive sewood. The carpet was a fake Persian with a very comfortable pile and I awakened sprawled on it with my slightly open mouth next to the leg of a sturdy desk.

I sat up to take stock. Although the average person takes ten to twelve hours to recover from a stunning, I am able to do it in five.

Six in this instance. It was approaching ten in the evening when I arose from the office floor. I knew at once I was no longer in Omaha, because even through the thick plaz walls I could hear the sounds of semitropical night birds.

I snapped my fingers.

Snap!

"This is splendid," I told myself. "Those smug bastards have dumped me in their Sunnyland-2 android repair depot. Now I'll be able to take a look at the murderously defective Penny Jupiter. She must be stored here awaiting repairs."

Sometimes, even though you're in tip top shape, you come out of a stungun attack a bit wobbly. As I was starting for the door I bumped against the desk.

Whap!

A framed tri-op photo fell on the rug. Stooping, I retrieved it and

was about to return it to its place when I noticed the subject.

It was Pamper Bumlin. An even younger, though already fantastically attractive, Pamper; and she was standing in front of a row of gleaming robots looking very pleased with the huge silvery trophy she hugged to her. There was a banner attached to her bosom and it read: FIRST PRIZE: ANNUAL MILITARY-INDUSTRIAL COMPLEX YOUTH SCIENCE FAIR.

Snap!

I replaced the photo, picked up the desk's name plate. The desk was Monty Jungel, Jr.'s.

I was more determined than ever to find the defective Penny Jupiter and ask her a few questions.

Since, sir, you've often complained about the emphasis I give in my reports to what you term "sophomoric swashbuckling," I won't bother to detail how I found the android in question. Nor how I overcame the three powerful hoodlums and two substantial guard-bots Kassy Gulliver had left to watch over me.

I'll only mention that the Anticonsumer Agency continues to be obtuse, believing that a dedicated PIE agent would actually carry mass market products around with him. They let me keep the pack of synsigs, which concealed the tiny lazrod I used to cut out of the office they'd locked me in. They also overlooked the stunmist atomizer built into what was apparently only a Big Hunk O'Junk candybar.

By eleven that evening I and a sweetfaced old lady were at the Sunnyland-2 teleport station booking passage to the Omaha Sector. At twenty-three minutes past the hour Penny Jupiter and I had bluffed our way into the Erudite Network studios.

From the backstage area I could see the stunning young Pamper out in front of the vidcameras. She was holding up what I took to be a huge chocolate bunny, although I later learned it was a valuable piece of foodist sculpture. Behind her sat sixteen robots busily keeping track of phoned-in bids.

"Golly, if you run the bid up to \$100,000," Pamper said in her smoky young voice, "it'll mean ever so much more of the sort of programming we all love. You'll not only see *Rockabilly*, *Gentleman Junkie*, *Death Is For Losers*, and the like, but EN will be able to afford new shows like *The Best Of The Three Stooges*. . . . You know, my late stepfather lived right here in the Omaha Sector area, in the mansion I bought him and my mom, and there was hardly a night he didn't watch EN and benefit by . . ."

I tapped my android on her plump arm. "Let's go, PJ."

"Yes, Mr. Tockson, I suppose we better," she said with a sad sigh.

We were able to make our way through technicians and studio executives. Stopping beside the lovely young model, I said, "We have an important announcement to make, folks. Although certain powerful interests have tried to suppress the news, a series of brutal crimes have been committed right here in Omaha by—"

"Get your butt off of here, go away." Pamper elbowed me in the lower abdomen. "Scram, yokel."

"Now, child, don't do that," cautioned Penny Jupiter. "My land, is that any way for a nice young lady to behave?"

"Hey, schmuck," called an agitated fatman in a one-piece bizsuit. He was just off camera, beckoning excitedly to us to depart.

"Hold on," I advised him. "You'll be getting a real news scoop here."

"I've always tried, Lord knows, to do my best," Penny Jupiter said right into the central botcamera. "Which is why I'm so awfully upset about what I've been up to lately. Darn. I not only beat up folks I thought weren't behaving proper . . . I'm afraid I did in a few of them. I dropped one fella off a rooftop and shoved this young lady's stepdad into his swimming hole and held him under till he up and drowned. Oh, it's been right awful the things I've done in my misguided way, sneaking out of my restaurant and my big, yet cozy kitchen late at night and not coming back until dawn." She put both hands up to her motherly face, began crying forlornly.

It made a wonderful shot and the floor director quit trying to coax us off.

"Nobody cares if a dumb robot went flooey," said Pamper. "You're completely nutso to drag her out here and screw up my spiel, you bumpkin."

"I been thinking, until this handsome young fella come down to Sunnyland-2 and fixed me up proper, that I was entirely to blame," continued Penny Jupiter. "I thought as I was having some sort of breakdown. When I found myself at the repair depot I accepted it." She folded her arms over her ample bosom. "With the skillful help of Mr. Tockson here, thank the Good Lord, I been able to remember what I was reprogrammed to forget." She pointed a plump forefinger directly at the gorgeous Pamper. "I didn't have no breakdown at all, nosir. It was on account of—"

"Shut up, you idiot!" Pamper threw the chocolate bunny, or rare statue, at the motherly android. "They're not going to take me. Kill them, Penny! Kill them all."

But I'd already repaired Penny Jupiter and she wasn't capable of

any more killing.

Lunging, I caught the girl around her slim shoulders and held tight to her. "It's all over and done," I told her.

I didn't, as you pointed out when you roared at me, return immediately to DC-2. I felt I owed Kassy Gulliver an explanation. Wishing to avoid any further publicity, I had my meeting with her in the privacy of my suite at the Hojo Omaha.

"The damn android wasn't defective at all?" she asked, sitting attentively in a glaz slingchair and sipping at her lowcal martini.

"What was wrong with this Penny Jupiter had been done to her by Pamper," I explained, stroking her slim back. I was, no denying, sitting close enough to do that. It was purely a comradely stroking, sir. "See, when I noticed that photo of Pamper, I realized where I'd seen her before. Before her skyrocketing modeling career. She was a crackerjack kid scientist, specializing in robotics. By the time she was thirteen she'd won a shelf of trophies and honors. Thing is, she was a shade unstable; and when her stepfather, Bongo Meech, began mistreating her mother and, worse, squandering a good deal of the family money, she decided to get rid of him. She'd utilize her considerable electronics skill to do the job."

"Several people were killed by that nutty android, people who had nothing to do with Pamper."

"She only wanted to kill her stepfather; the rest of the deaths were simply to divert the authorities," I explained. "Which they apparently did until I came along."

Kassy frowned. "Killing innocent people, hurting a bunch of others . . . it's callous."

"So is stunning a PIE agent."

"Oh, we're neither of us innocent."

I let that pass. "Since Pamper'd been having a close relationship with Monty Jungel, Jr. it was easy for her to get at the local Penny Jupiter and redesign it some," I went on. "She rightly assumed that both the Jungel family and you people would make every effort to hide the fact that a Penny Jupiter was malfunctioning. That you'd even fix it so the law didn't give out any details of the deaths. Once again, your cavalier way of doing—"

"You figured all this out from looking at a photo?"

"No, I got most of the details by talking to the supposedly defective Penny Jupiter android," I answered, trying hard not to look smug. "Once I returned her to tip-top shape, she was able to recall all that had been done to her. She remembered how Pamper had worked on

her, rewired her, added a couple of parts that were almost like standard PJ parts but weren't."

"You could've taken the android to the Omaha police and not staged that confrontation at EN's studios."

"I was hoping Pamper would think the andy was still in its killing mode," I said. "She did and it made for a much more flamboyant finish to the case. It also got the deplorable actions of the Jungel family and your agency out in the open."

Kassy said, "Perhaps . . ."

"Perhaps what?"

"Oh, I was going to say maybe I was wrong this time," she said. "I don't think I will, though, since you look too smug already."

"Let's," I suggested, "discuss something else."

Which we did, sir.

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ANTIMAGIC AT THE NUMBER WALL

by Martin Gardner

Two issues ago, in "The Balls of Aleph-Null Inn," we described a playground behind the inn where there is a Natural Number Wall. By pressing buttons above an infinitely long row of numbered holes, a child can obtain a rubber ball with any desired positive integer printed on it, like the balls used in pool-table games on earth.

In our previous puzzle tale, a black girl named Yin and a Chinese boy named Yang amused themselves by using balls bearing consecutive numbers starting with 1 to experiment with small-size magic squares, triangles, and hexagons. "Magic" means that all straight rows of two or more balls have the same sum. Yin and Yang found the only possible magic hexagon, of any size, and proved that magic triangles cannot exist.

"Do you suppose it's possible," Yin asked one day, "to make a square that's antimagic?"

"Meaning?" said Yang.

"Meaning that the sum of every row, column and main diagonal is different."

The two children found it easy to prove that there is no 2×2 antimagic square. (Curiously, every possible arrangement of 1, 2, 3, and 4 produces a square with sums of 3, 4, 5, 6, and 7.) They also found it easy to make 3×3 antimagic squares. It was so easy, in fact, that they tried imposing other constraints to make the task more interesting.

Yin and Yang were unable to make an order-3 antimagic square with all eight sums in consecutive order, nor were they able to make an order-3 antimagic square in which the sums of broken diagonals (a diagonal of two numbers plus the corner number opposite) were included. They did find two antimagic 3×3 squares with the following property. If you put a chess rook on 1, you can make a rook-move to 2, then a rook-move to 3, and so on to 4, 5, 6, 7, 8, and 9. One solution is:

3	4	5
2	1	6
9	8	7

Can you find the other one? Of course rotations and reflections of a pattern are not considered different. See page 74 for the answer.

ON THE CONTINUING ADVENTURE: THE FOURTH SALLY

by John M. Ford

art: George Barr





This is the fifth article on fantasy and science fiction games, and the third set of rôle-play ruleset reviews, to appear in *Asimov's*. We wouldn't have gotten this far without your support; thanks for the letters of praise and criticism, and especially for the suggestions on what you'd like to see in these articles. Thanks also to the publishers who have made copies of their products available—I can't review what I don't have.

It's time to ask for some more response. Do you not care if you ever see another broadsword or blaster again? Please say so. If you enjoy and/or use the essays, how could they be improved, both as essays and as a buyer's guide? While rôle-playing rules by their nature call for examination at some length, would you like to see book-review type of coverage of other SF/fantasy games? (This would not be a regular monthly column, but would be added to "On Books" two or three times a year.)

To respond to a couple of the suggestions we have received: Most publishers do add shipping charges to products ordered from them by mail. Unfortunately, everyone seems to have a different rate structure—some charge per game, some per order, some offer two or more classes of postage. I'll try to list such charges, but remember that everything (including prices, of course) is Subject to Change Without Notice, and you'll be reading this several months or more after it's written. A stamped envelope to *the manufacturer* (not us) should bring current information. And when you write, it helps everyone if you mention that you read about it here.

I was also asked to list any items in addition to the ruleset itself that are necessary to play, specifically the sometimes peculiar sorts of dice required. I'll do this when possible, and when an item is both specific and necessary: *every* adventure game requires paper and pencils in large quantities, and while miniature figures are attractive and often helpful, they are not essential (in games where characters must be represented on a board, as *The Fantasy Trip* and *DragonQuest*, cardboard counters will suffice).

It should be pointed out that several publishers are given to pushing supplementary rulebooks and specific brands of miniatures. One can't object to honest advertising, but some of this isn't particularly honest. Most parties of adventurers consist of five or six players operating fifteen or twenty characters on the outside; what use will they get from a set of rules for army-sized battles? And the statement that the game will function properly *only* with Brand X metal mini-

atures is not only silly but an insult to the intelligence. (Given the ugly, sub-amateur art that adorns so many rules—would you take these persons' artistic advice about miniatures?)

I do not advise *against* your purchasing any of these items; only that you buy thoughtfully.

That, after all, is what these essays are all about.

PARADUCTION: What Do You Mean, Adventure? Games?

The Adventure, often called "rôle-playing" game, is a sort of cross between improvisational theatre and Cops and Robbers. The players assume parts, sometimes defined in great detail, in an adventure situation set in one of the imagined worlds of science fiction or fantasy (including the fantasies of Dumas's France, J.T. Edson's West, or Mark Hellinger's Roaring Twenties). The world is built, detailed, and kept turning by a game operator (my term—most people prefer to be Game Masters or World Lords; by way of consistent compromise, these critical essays use the term "GM"). This person is a scenarist and director, but *not* a scriptwriter: the characters write their own scripts, if the GM is wise enough to let them.

Depending on the players' temperaments, the action that results can be anything from a movie-serial shootout (slashout?) to a complex series of character interactions without a single violent act.

The foundation for all this is the ruleset—the "game" proper—a set of systems for describing characters' abilities and resolving their actions. Some rulesets are action-oriented, some philosophical; each has a more-or-less unique "feel" in play. The best will make the playing of a character and the operation of a world a simple, logical, believable process. With the worst you will be better off pointing your finger and yelling "Bang, you're dead!"

There will be missions to accomplish, honors to gain, victories to earn; but no one "wins" or "loses" in the end, because the adventure *has* no end; characters may "age" and "die" but their players go on. The object of playing is playing (pardon me, Mr. Orwell). The object of being a GM is *not* the outwitting or annihilation of the players but the keeping of their interest, a much harder and more rewarding task.

A few years back we saw a movement toward coöperative, rather than competitive, play. It was an interesting, maybe even noble, idea; but the *games* were pretty bland stuff.

Adventure gaming, however, rewards both team and individual

effort. (It can also reward backstabbing and deviousness, but so do *Parcheesi* and *Monopoly*.)

The rattling of curiously shaped dice and the rustling of maps and tables may be the sounds of the next social phenomenon.

SPACE OPERA: The Anvil Chorus

Fantasy Games Unlimited, Inc., Box 182, Roslyn NY 11576

Two 90-page books and pullout charts, boxed—\$18

(Requires 6- and 20-sided dice, not included)

Designed by Edward E. Simbalist, A. Mark Ratner, and Phil McGregor

The phrase *space opera* covers a lot of territory. Blasters and space-axes; crushing tyrannies, crashing planets, and colliding galaxies (and chaste romance); stellar knights, white and black, in shining powered armor; ships from X-wing fighters to the superdreadnaught *Chicago*; the infinite powers of the unleashed mind.

That's a lot to get into two rulebooks. Nonetheless, that was the authors' idea: cram it *all* in, from Doc Smith to George Lucas. (When publisher Scott Bizar handed me a copy of the ruleset, he said, "With these you can have Lensmen fighting Jedi Knights." A peculiar notion, that, but he quite meant it.)

Space Opera players begin creating their characters by rolling percentile (1-100) dice for not less than fourteen personal characteristics. (This may be a record.) These, however, are only raw scores, which, after modifications for planet of birth and chosen profession, are converted into weighted final values from 1 to 19. *Then* several more characteristics, such as Carrying Capacity and Stamina, are calculated from these values.

Characters need not be human, though they must first fit the parameters for a nonhuman race and *then* choose it. And most non-humans—*all* nonhuman player-characters—are canines, felines, ursines, saurians—you know, wolves, cats, bears, lizards, and the rest of the anthropomorphized Terrestrial zoo. That venerable absurdity, "parallel evolution," is implied though not directly invoked. There are provisions for insect cultures, intelligent plants and rocks, and frigid-blooded poison breathers—mostly on the combat tables. You can zap 'em but you can't join 'em.

When the calculating of characteristics is done, the character

takes employment with a civilian, military, or government service, including such choice opportunities as the StarForce Commandos, the Diplomatic Service, and the State Secret Police. During this period, which may use up from 4 to 30 years of "life," the character accumulates promotions, cash and equipment, and Skill Points, which represent what s/he is learning from experience.

At the conclusion of service things get very interesting. The character trades the accumulated Skill Points for levels of ability in several dozen fields. Though most of the points must be used in the character's specialty—physicians learn life sciences, soldiers get weapon and combat training—there is considerable freedom of choice as to what one does with one's life.

This is one of the very best compromises available between purely random and purely determined characters. And, since skills can be learned through study after the original creation process, one is not completely "stuck" if one's initial die rolls were less than spectacular.

There are some difficulties. The point costs of certain skills seem way out of line: it costs twice as much per ability level to learn pistol shooting as to learn bomb disposal. Huh? It is also hard to justify the ceilings placed on certain skills. The sciences extend only to Level 10. What, then, does a Level-10 physicist know? *Everything* about physics? Everything *known* about physics? "Everything" is a crucially vague phrase when the frammistats are overloading and the Id Monster's melting through the door.

Combat is resolved with percentile dice. A roll to hit the target, if successful, is followed by rolls to precisely locate the hit, determine if any armor was penetrated, and find the severity of the resulting wound.

This system is not especially difficult, but it is slow—four or more dice rolls per shot, each roll subject to modification for the shooter's status, the target's status, the environment, and the weapon's precise characteristics.

Of those there are plenty. Four pages of tables give statistics of range, load, rate of fire, penetration, and wound severity for 150 weapons, from blowguns to blasters. Close-combat weapons (which have their own modifiers) run for another page, similarly exhaustive—daggers, rapiers, katanas, Norman axes, protein coagulators, chairs, brass knucks, and several varieties of energy swords. *Another* page covers "natural weapons"—bare fists, claws, tentacles, pseudopoda, etc.

Did we miss anything? Well, the authors note that "heavy weap-

ons" have not been included—a "fusion machinegun" with a range of 3000 meters isn't *heavy*?—and the rules for hand grenades, which evidently *were* supposed to be present, are missing.

This looks like the very system for those who enjoy arguing about Quik-Point sights, Pachmayr grips, boat-tails vs. wadcutters, hesitation locking, and how many grains of Unique it takes to drop a Rigellian cateagle . . . it looks like it, but is it?

Experience with "exhaustive" weapons lists in other games has made me cautious. (So have gun arguments of the sort mentioned above.) So I looked very closely at these lists.

The idea behind having so many weapons is that each is just slightly different—a conventional and a snubnose .38 revolver, for example, both the .500 and .600 Express elephant guns, .22 caliber target pistols, and on and on until the author ran dry or got bored. Unless the GM simply delights in arming characters with odd, often inferior, firearms (black powder dueling pistols?) most of this list is deadweight. The tables are also based on the odd idea that to change weapon performance one must change weapons—there's no provision for different types of cartridges.

The combat system is overloaded with modifiers and mostly useless detail. (And some wrong detail: the listing for a ".10 slug," a round which would not annoy a Pekingese, actually refers to a *10-gauge* shotgun slug, which is another sort of thing entirely.) Is "realism" better served by twelve grades of armor, plus vehicle plating, force screens, and bare skin, than some more manageable number? Why is the hit-location table located five pages away from the wounds table, when they are always used together? Shooting from the hip is like solving a Diophantine equation.

The section on equipment makes the authors' intention quite apparent: they mean to list anything and everything in the imaginable universe that the well-equipped starfarer might need, want, or stumble over, and then detail the heck out of it with price, operating cost, technological level, weight, code abbreviation, and if possible several different models. There are four kinds of cold-weather clothing, five kinds of rope, seven pocket computers, eight infrared goggles. . . .

There are some fine ideas buried in this galactic Abercrombie & Fitch. The Breakdown Number system—fail to take care of your SS/VS-2 vacuum suit and it will fail to take care of you—is especially good. So is the classification of vehicles by ground transmission type—slow wheeled, fast wheeled, fast tracked, gravity, and so forth.

But, as seems inevitable in these rules, every good idea is followed

hard by two or three bad or incomprehensible ones. Vehicle fuel requirements are given as a cost to refuel (in the ubiquitous, unoriginal Credits) per 1000 kilometers—which may be great if your character is a fleet accountant, but nowhere is there an indication of how much that fuel weighs, or how much room it takes up. When a group of my players wanted to carry a spare load of fuel into the wilderness, I had to invent the details; the rules were of no assistance.

Starships are important to written space opera, not only as the stainless steel steeds of the cosmic cowboys, but because the gaudiest superscience—stardrives and space battles—centers upon them.

The *Space Opera* starship rules are pretty straightforward—less imaginative than the eight kinds of infrared goggles. To build a ship, one buys a standard hull of from 100 to 1,000,000 tons, and then stuffs it with standard equipment until all the tonnage is accounted for. This stuffing can take a long time, but there's nothing very creative about it. Design constraints consist mostly of having enough money. (And for some reason all the ship hulls are proportioned like airplanes, much longer than they are wide. DC-3s seven hundred meters long.)

The ship's sublight drive shoves it slightly out-of-phase with the universe, allowing it to race around at significant fractions of light-speed while ignoring Newtonian mechanics (and Einsteinian mechanics; a ship at .996 of the speed of light shows no time dilation or mass increase). Hyperdrive rotates the vessel completely out of reality, allowing it to cruise at a light-year an hour or so.

While in hyperspace, combat cannot occur, so the authors invoke a classic old rule: you can't cut in the warp engines until far out of a gravity well. So the Pirates and the Patrol can lurk within the orbit of Jupiter or so, each knowing the other can't flip a switch and escape.

Ship-to-ship combat is a great step backward. Everyone blasts away with "NovaGuns," trying to straddle the target, just like sinking the *Bismarck*. There's not a needle, cone, or rod of ravaging energy in sight, nor a single whiff of smoldering duodecapylatomite.

Rules and formulas are given at some length for calculating profit and loss from starship operations. Unfortunately, the formulas don't work. When average values are inserted, a small (500-tonne) free trader shows an annual operating cost of 500,000 credits—and an income of 12,500,000! While a 2400% profit would swell Nick van Rijn's big heart to bursting, not even the Dutch East India Company

could earn that as a mere hauler of goods.

There is a process in the professional game business called "development." It consists of hitting the game hard and seeing which way it falls. Usually someone other than the designer does the hitting; some designers can develop the detachment to be their own developers—but that is clearly not the case here. A developer would have plugged dummy variables into those profit formulas and seen at once the improbable results. And recognized that fuel consumption should be measured in liters or kilograms, not dollars. And suggested that the combat tables either draw the line somewhere this side of playability or made the system truly flexible by allowing players to set their own weapon parameters (which through custom gunsmithing and cartridge loading is what most serious gunners do).

I cannot find much to praise in the physical format. The boxcover art is awful, and the interior art is not much better (including some recognizable swipes from comic books). Proofreading is very poor: whole lines of text are missing, words are absent that change the meanings of sentences (in the description of the Neuronic Whip weapon, a line which should read "... most beings would probably rather be hit by a blaster bolt..." comes out "would probably be hit by a blaster bolt."). There are references to characteristics modifiers that do not exist, and to ratings that cannot be achieved as the rules stand. The word "maintenance" appears a great many times, always misspelled "maintainance." Organizing the rulebooks in a logical, let alone convenient, fashion seems never to have occurred to anyone.

And still: you really can have Lensmen duke it out with Jedi Knights, psionically or with machine guns and lightsabers. But you are going to have to do a lot of puzzling and patching to get them there, and to keep the holes in the painted-muslin galaxy from showing. As an idea source *Space Opera* is valuable, if not exactly priceless (five kinds of rope?). As a *game* it is like the Imperial Death Star: impressive and ponderous, and not nearly so invulnerable as it looks.

BOXED RUNEQUEST: Everything but the Coleslaw

The Chaosium, Box 6302, Albany CA 94706

Boxed set—\$19.95 (+ \$1 p/h)

(Requires 4-, 6-, 8-, and 20-sided dice, included)

The central item in this slightly garish "bookshelf" box is the second-edition *RuneQuest* rulebook, as reviewed in the September 1980 *Asimov's*. I liked it then, and I still do.

But since a ruleset does not a universe make—and Glorantha, the *RQ* background, is more completely realized than most—the box also contains:

- a double scenario packet, *Apple Lane* (a revised version of a booklet published earlier)
- Fangs*, a batch of precreated monsters
- character record sheets, designed by John T. Sapienza, complex but super-efficient
- two pages of errata, addenda, and clarifications to the rulebook
- dice: three 6-sided and one each 4-, 8-, and 20-sided (an absolute-minimum set).

The last thing in the box is a 16-page booklet titled *Basic Roleplaying*, by Greg Stafford (Glorantha's creator) and game designer Lynn Willis. This is a *really* ground-level (it explains how to throw the dice!) introduction to adventure games.

This is a nice piece of work, but not perfect. Some of the descriptions of game mechanics (all simplified *RuneQuest*) are inferior to those in the regular *RQ* rulebook. This also applies to the examples of play, which follow the career of "an adolescent reaching adulthood"—but the person seems more like eleven years old. There is the uneasy sound of talking down . . . alongside phrases like "intangible properties" and "an elaborately shod . . . implement." (While I'm at it, why make this sample character an adolescent to begin with? Not only is the life of a medieval youth just as alien as that of a period adult, but young players are the *least* likely to want to play gawky squires and nervous apprentices. Who wants to be Robin when you can be Batman?)

However, I'm counseling perfection, and the fact is that all other attempts to write a booklet like this have resulted in witless advertising ("You have bought the very best adventure game in the whole wide world") or abstruse theses on the philosophy of rôle-play, one part Transactional Analysis, one part Stanislavsky Method ("Explore roles rooted in your id. Then your superego.") This one does the job.

If you're already an established adventurer, you might want the ruleset alone (\$11.95). But there's nothing in here that the oldest dungeon hand won't find a use for, even *Basic Roleplaying* (use it

to explain to your parents what you've been *doing* on Saturday night, for instance). Altogether one of the best values for your goldpiece going.

THE FANTASY TRIP: A Hex is not a Spell

Metagaming, Box 15346, Austin TX 78761

Melee and *Wizard*, boxed "Microgames," \$3.95 each

Advanced Melee and *Advanced Wizard*, 32- and 40-page books, \$4.95 each

In the Labyrinth (GM's guide), 80-page book, \$4.95 [add 50¢ per order]

(Requires 6-sided dice, not included)

Designed by Steve Jackson

This field sometimes seems determined to harden its flimsiest premises into tablets of stone, incant its clumsiest mechanisms into Laws of the Universe. A little heresy from time to time would be most welcome. Steve Jackson is no Galileo, but he did take a hard squint at the way things were—and he generally remembered he was writing game rules, not *Jane's All the World's Fantasy*.

The "world" of *The Fantasy Trip* is the planet Cidri, artificially constructed by a race of mutated humans with universe-hopping abilities. The planet is many times the size of Earth, though its gravity and atmosphere are Earth-normal, like Jack Vance's *Big Planet*. The "Mnoren" stocked Cidri with people, critters, and gadgets—and then exited stage left. Enter adventurers, stage right.

TFT characters have only three basic attributes: Strength, Dexterity, and Intelligence. (This is probably the record minimum for a complete adventure game, though the original *Melee* omitted Intelligence.) Instead of determining characteristics with dice, the player begins with minimum values (8 each for humans) and a few points to distribute by choice. Thus everyone starts out "equal," but with completely free choice of character type (and no effects of hot or cold dice).

Characters are defined primarily by their skills. Each skill, including magic spells, has a minimum necessary Intelligence and takes up one or more points of Intelligence . . . like a computer program taking up memory space. Characters are either Wizards or Heroes (defined as anyone who isn't a Wizard). Wizards require

twice the normal memory to learn non-magical skills, and Heroes need *triple* space for spells. It is quite possible to be a wizardly hero, or a tough-cookie sorcerer, but specialists get better use from their memories.

One racks up "experience points" for good play—and the author points out that "good play" is more than slaughtering monsters; it includes all aspects of playing a character rôle, including fleeing in panic if the character is supposed to be cowardly. (Such a person might *lose* points for bravery.)

When a certain amount of experience piles up, it is traded in for an additional attribute point of the player's choice. If Intelligence goes up, the character may learn a new skill or spell to fill the space. One may forget old skills to make room, through willpower, magic, or hypnosis by a dragon. (How far can you trust a dragon? As far as you can throw it? Just coming to that.)

To strike a blow in combat, three dice are rolled; if the total is less than or equal to the character's Dexterity, a hit is scored. This is subject to modification for the quantity of armor one is lugging around, and for some environmental factors: evasive movement, bad light, etc. These modifiers appear only as they are really needed, not in endless lists that attempt to exhaust every imaginable possibility. Their number is thus manageable, even memorizable (though a consolidated list would have been appreciated). An extremely low roll results in a critical (severely damaging) hit; very high rolls mean that the attack was fumbled, and the weapon may be dropped or broken.

If a hit occurs, dice are rolled to determine damage—the exact roll determined by weapon type. The value of the target's armor is subtracted from this roll, and the remainder gets through as damage. A character can absorb damage equal to her Strength before going to that big box of dice in the sky.

All characters (and beasts an' things that go boomp in th' caves) must be represented by counters or miniatures on a hexagonal grid, and all move in a strictly determined order. [For those new to these games: hexagons, not squares, because the center-to-center distance between touching hexes is always equal.] This requires a little effort to set up the props, but it absolutely resolves who can see what, move where, and hit whom, when.

Now, if you want to fight battles at quick tempo and get them over with, this is *the* system. It's clean, simple, and quick, without giving up things like critical hits and fumbles, which in most games

call for extra tables and dierolls. Tactical movement requires no tricky measurement; four hexes are four hexes, and the gargoyle's either blocking your path or it isn't.

The list of weapons is short by normal RPG standards, because it simply relates the damage done to the user's Strength, rather than listing every name the author could crib from Burton or Stone and inventing statistics to suit. (If you like that sort of fake erudition, there is a table of "equivalent weapons," including cinqueda, naginata, claidheamh mór, and bicycle chains.) Since high Strength allows the use of a bigger weapon, no separate modifier for Strength was needed.

A few primitive gunpowder weapons are available. They are expensive, heavy, slow, and unreliable; and magic usually works better—but some people will try anything once. The chief component of gunpowder on Cidri turns out to be dragon . . . er, droppings. (Fresh ones only.) This provides another reason to go hunting dragons (or at least to follow them with a dustpan).

The ubiquitous "saving roll" shows up again in *TFT*, but in a form organic with the rest of the rules. The GM decides what attribute(s) the fell trap in question will test, and then assigns a number of dice to be rolled, in an attempt to roll no higher than the attributes total. The more dice, the harder the test. Two dice is easy. Three is average. Four is tough. Seven is positively grim.

And this system works without reference to a single chart. You can *remember* how it works. Isn't that terrific?

[All right, for those of you with long memories: I invented this system independently of Steve Jackson, and used it in my article in the July 1979 *Asimov's*. I am applauding a good idea, not *my* idea.]

TFT magic is very sharply defined—since you're either in a hexagon or not, there can't be any argument over being in range or radius of effect. Spell power is drawn from the Wizard's Strength (as fatigue, not wounds) and that of others, donated willingly or otherwise. Elderly, feeble Wizards are either vampirizing their acolytes or have Strength batteries tucked up their flapping sleeves.

(It should be apparent that no one can create a super-character by boosting one characteristic out of proportion to the others. A Wizard may know every spell in the book, but without Strength she can't power them and without Dexterity she can't hit anything with them.)

Most spells are point-and-shoot stuff, though the GM and players

are encouraged to make creative use of them. Some spells require so much Strength, 50 points or more, that casting them amounts to ritual magic; either a lone Wizard working for days or several persons pooling Strength. A reasonably complete system is given for creating the goodies some people are so fond of: scrolls, wands, amulets, Tieclips of Intermittent Claudication. . . .

There is supposed to be a theory of magic underlying the rules, but only bits of it are visible, and there seem to be as many exceptions presented as there are rules. Maybe that *is* authentic, come to think of it.

What do you need to play *TFT*? The GM requires *In the Labyrinth* and at least one version each of *Melee* and *Wizard*, the *Advanced* versions by choice. (The Microgame versions—sort of paperback bookshelf games—are a little simpler, but they contain nothing that is not in the *Advanced* books except playing boards and counters. Hexgrids suitable for copying are provided, and counters are easy to make. Or use miniatures.) Players may want their own copies of *Melee* and *Wizard* for reference. (Since many players habitually buy everything associated with a game, it is pleasant to note that *In the Labyrinth*, unlike some similar items, contains no information that should remain the GM's exclusive property.) You'll also need quite a few dice, but *The Fantasy Trip* uses only the common 6-sided variety.

The books are cleanly typeset and have been proofread, which is something you don't see every day in this business. The rules sections are somewhat organized, but not very well—certainly not well enough to make up for the lack of an index. Only *In the Labyrinth* has so much as a Contents page. The artwork is competent if bland (and as usual is only there for its limited decorative value; there are diagrams of play, but the pictures illustrate nothing)—but for some reason all three books have covers identical except for the overprinted title. In the normal sprawl of a GM's table, one cannot be distinguished from another. Differently colored overprints, or better yet different covers, would have saved accumulative hours of shuffling.

The broad generality of *The Fantasy Trip* is offset by a basic leanness of concept. The game background—giant Cidri and the eclectic Mnoren—is an excuse for the presence of whatever catches one's fancy, lizard men, and Thompson guns, not a foundation to be built upon. Because of this, the ruleset is less than ideal for the beginning GM. For the beginning *player*, however, the simplicity of

the combat and magic systems, and their high definition—*this* many hexes, *that* much effect, rules that can be grasped whole rather than deduced from vague hints—make it an excellent choice. Enough so that a GM who knows what he wants in a world and how to put it together might look at these the next time his present magic and combat systems won't start on a cold morning.

At \$15 for the complete rules, *TFT* is neither the least nor (by a long shot) the most expensive ruleset available; but everything you pay for is comprehensible, and everything you pay for works.

And if that's heresy . . . which way to the Inquisition?

EXTRODUCTION: Supplements, Play Aids, Etc. Etc.

[Due to the number of items mentioned here, and the variability of production costs, no prices are given. See your dealer or write for the publisher's literature.]

At the present writing, no supplements or play-aids are available for *Space Opera*. However, the *Guide to Ground and Air Equipment*, which will add heavy weapons and (mostly military) vehicles and aircraft, is in preparation. Also announced are the *Sector Star Atlases*—star maps and catalogues of planets. Preloaded adventures are in the works as well.

FGU also publishes a set of army-level combat rules titled *Space Marines*, by A. Mark Ratner. Despite the fact that rôle-players won't often get into full-scale battles, I have to recommend this book, because it clears up many of the omissions and holes in the *Space Opera* ruleset, including such things as the grenade rules, air-to-air combat system, the correct version of that Neuronic Whip description, and explanations of the funny-animal races (Rauwoofs, Klack-ons, etc.) that *Space Opera* mentions but never gets around to explaining.

Metagaming offers *Tollenkar's Lair*, a preloaded labyrinth (underground) adventure in book form. There are also "Microquests," adventures in the Microgame package, presented in programmed-text form. ("You see a shadowy figure. If you want to talk to it, go to paragraph 80; if you want to shoot at it, go to 14; if you want to rush it, go to 212.") Programmed texts require no GM, and are about the only reasonable way to play adventure games solitaire. The Microquests available now are *Death Test* (a civil-service exam for

mercenaries), *Death Test 2* (more and worse), and *Grailquest* (on the road with Arthur's knights, looking for the you-know-what).

Finally, Steve Jackson (the designer of *The Fantasy Trip*) offers "Cardboard Heroes." These are sheets of coated cardboard printed with color front and back views of the usual (and some less usual) fantasy-adventure types. You cut them apart, fold them into little easels, and at once you have fully painted and detailed 25-mm figures—only without painting (or filing or mounting or fiddling around).

Well, they're not *quite* like metal miniatures, but they're easy to like. The artwork, by Denis Loubet, is very good; and the printing is perfectly registered. And the price is lovable: 40 figures, humans, elves, dwarves, and "halflings" (you know—short folk with furry feet) for \$3.

Also included are details of a distinctly unique contest: the winners will appear as future Cardboard Hero(ine)s. Now *that's* getting into your character.

Available at retailers or from Steve Jackson Games (how straightforward can you get?), Box 18957, Austin TX 78760 (add 25¢ each for 3rd Class, 50¢ for 1st Class postage, US and Canada only). Jackson is now also the publisher of *The Space Gamer* (formerly a Metagaming product) a monthly magazine with a heavy emphasis on game reviews. *The Space Gamer* is \$21 per year from TSG, Box 18805, Austin TX 78760.



ANSWER TO ANTIMAGIC AT THE NUMBER WALL

(from page 57)

The only other rook-wise connected order-3 antimagic square is:

7	6	5
8	9	4
1	2	3

Each pattern is the "complement" of the other because it is obtained by changing each digit to its difference from 10. In both solutions the rook's path is a spiral from 1 to 9.

Yin and Yang next turned their attention to antimagic triangles, and quickly discovered that the triangle formed with 1, 2, and 3 is antimagic:

1	2
3	

"How pretty!" exclaimed Yin. "If we add the three corner numbers we get 6. That makes four sums in consecutive order—3, 4, 5, and 6."

When the children began exploring antimagic triangles of the next larger size they found them so plentiful that they started searching for a pattern in which the sums formed by each row of two or more digits, the three corner digits, and the three interior digits were not only distinct, but were in consecutive order. Yang was able to prove that the eight consecutive sums had to be 6, 7, 8, 9, 10, 11, 12, and 13. To their delight, Yin and Yang found a solution and proved it was the only one.

Can you put the digits 1 through 6 in a triangular array so that the eight sums (formed by all rows of two, all rows of three, the three corner digits, and the three interior digits) are the numbers from 6 through 13? The answer is on page 83.

A TRAIL OF FOOTPRINTS



by Keith Minnion

art: Artifact

The author, currently on duty with the U.S. Navy, is working toward being an artist as well as a writer.

His mother called one final time from the porch, her voice losing itself in the gathering evening and the quiet snowfall. Then she went inside.

"Billy," she told her son, keeping her voice calm, "go out and find your brother."

"Yes, ma." The boy already had his coat and boots on. "He's prob'ly not too far." He pulled his wool cap low over his ears, and went out

into the grey twilight and snow.

Billy's mother watched him until he was lost in the trees, then she closed the door and regarded her husband, asleep and snoring on the couch. "You smell like a brewery," she had accused him when he had come home that afternoon. "I *am* a brewery, sweetheart," he had replied with a cold smile. Then, "Now don't you dare wake up this brewery for *nothin'*," and he had dropped onto the couch like a dead man.

"Your son Andrew is three hours late from school," she said quietly, through his snores. "It's almost nighttime, and it's snowing." She turned away bitterly. "And you're drunk."

Charley regarded the bottle of bourbon on the mantel; it was half-full. It had been half-full for the past month, and during that time he had finished six chapters of the book. In that month he had shoveled snow, chopped wood, cleaned, scrubbed, and polished every square inch of the cabin four times, bitten his nails severely, taken fourteen hot showers and sixteen cold ones, and he had not drunk a drop of that bourbon. Not a blessed drop.

And—he rested his hand lightly on the neat pile of manuscript pages beside his typewriter—he had written nearly a third of the book. *The book.*

"I think," he told the bottle, "that I will dedicate it to you: 'To the wild turkey that got away.' Nothing like a good inside joke, eh? Just between you and me." He paused, and thought: you are walking that fine line very well, now. Keep it up, Charley-boy. Keep it up.

On the hearth the fire hissed and snapped cheerfully, casting out wave upon wave of warmth. He settled back with an old collection of short stories, a well-thumbed friend—perhaps 'Diary in the Snow' tonight, he thought; an appropriate choice—while outside in the night the cold wind moaned. A perfect setting, he thought: a snow-storm blowing in the dark Maine woods without, while within the solitary young writer is curled up with a good book in front of a warm and cozy fire. What else was needed to complete the picture? A snifter of brandy? No. Oh no. A beautiful woman? Most definitely. And how about an unexpected knock at the door—

There was a knock, then, at his front door.

"Not bad," he said under his breath as he rose to answer it.

He found a boy standing and shivering in a snowdrift at his doorstep. The boy opened his mouth to speak, but at first nothing came out. Then, "... My little brother ..."

Charley took him by the shoulder and led him to the fireplace,

where he took off his gloves and coat and sat him in the chair closest to the blaze. "What's going on?" He asked him then. "Who are you?"

"Billy . . . Billy Leacroft . . ."

"Well, my name is Charley. You getting warm yet?"

"Yes, sir."

"Call me Charley, okay? Now what's this about your brother?"

"He's lost. He's been lost for hours. My Mom sent me out to look for him, but it got dark and cold, and I saw your lights . . ."

"Where do you live, Billy?"

"Down the road a ways, not too far."

"Has your Mom called the police?"

"We don't have a phone."

"Hmm." Charley got his parka and gloves. "If I had a phone myself I'd call them from here." Then he got a flashlight from a desk drawer and tested it. "As it is, I can at least give you a ride back to your place. You getting warm yet?"

Billy struggled back into his coat. "I guess." He stood. "But what about Andy?"

"That your little brother's name?" Charley handed Billy his gloves. "Don't worry, I'll help you find him." He smiled encouragingly. "I had nothing else to do tonight anyway." Except, he finished to himself, to think about that goddamned bottle of bourbon. Oh yeah.

In the car, which had roared to life, surprisingly, on the first try, Billy said, "I really 'preciate your help, Mister."

"Hey, I thought I asked you to call me Charley. I'm your neighbor, after all, right?"

"I guess. You renting the Jackson place, Charley, or did you buy it?"

"Renting. And pretty cheaply at that."

"You on vacation?"

"Sort of. I usually work down in Boston, but I think I like working up here in Maine better."

Billy looked down at his gloves. "I never been to Boston. Neither has Andy."

"Well, you're both not missing much. How long did you say he's been lost?"

"Since school. He goes to afternoon kindergarten."

Charley squinted through the wipers and the curtains of snow dazzled by his headlights, and pressed his foot a little harder on the accelerator. "Don't worry," he said again. "We'll find him."

§ § §

"Where does the school bus let your son off?" Charley asked Billy's mother, noticing (but pretending not to) the husband beyond, sprawled on the living room couch.

"Out on the Mill Road," she said, "by the oak trees. The Ellerby farm is right there. Andy usually cuts across the fields when their dogs are leashed."

Charley nodded. He tousled Billy's hair. "Billy did his best. You've got a good one here."

She smiled slightly, put her arm around her son. "I know," she said.

"I'll go into town and call the State Police, then try to follow Andy's trail home."

"Thank you, Mr. . . ."

"Midwich. Charley, please."

"Charley and me are neighbors," Billy piped in.

"Yeah," Charley said, "neighbors." He looked again to the man snoring on the couch. With, apparently, he thought, a few things in common.

He stood by the oak trees, looking out across the wide field of snow. He felt certain that this was the place Billy's mother had described; the oaks, even in the steady snowfall, were unmistakable.

He took out his flashlight and snapped it on; millions of spiraling snowflakes caught and sparkled in its path of yellow light. He directed the beam to the ground—surely, if the boy had crossed the field, there would be—and found a trail of footprints immediately. They were almost completely filled in, but still discernable. Small shoe size, short gait . . .

He followed beside the trail, creating his own in the process, in a straight line across the expanse of snow. But halfway across he paused.

"What the hell—?"

The boy's footprints had stopped, there, in mid-stride. In the middle of the field. Just stopped.

Charley stared down in astonishment, then out, across the unbroken snow in front of him, where the rest of the prints *should* have been. And then he looked up, into the night. Snowflakes settled gently on his forehead, his cheeks, his lips, burning, melting.

He felt himself flush, then, and begin to sweat. He was suddenly very very afraid.

Is this real? he asked himself. The question chilled him. How many times before had he asked that, drunk, staggering through

crowded, smoky bars, or fumbling for car keys in cold, windy parking lots, or staring bleary-eyed at graffiti in piss-smelling public lavatories . . . is this real?

"No," he muttered aloud. "I'm sober, dammit. I have been for a month." He took a deep, frigid breath. "I'm sober."

But the footprints ended in the middle of the field. There they are, he told himself, there, in the flashlight beam . . .

Oh God, he thought then, I need a drink.

The sudden admission startled him, scared him almost as much as the footprints had. His oh-so-carefully constructed world—the cabin, the solitude, the book, the bottle on the mantel, his courage, resolve, and strength, all of it—was suddenly falling apart around him, falling utterly, like the snow. He watched as the final traces of the boy's footprints were filled, were covered, and then were gone.

You were just kidding yourself, Charley-boy, he thought. That wagon trip of yours was just a delusion, just as standing in this field is a delusion, a joke, a lie. Footprints? What footprints? I only see yours, pal, just yours, and those are fading fast.

Jesus. He swallowed, his throat unquenchably dry. You need that drink. You need it badly, now.

He began walking in the general direction of the oak trees and his car, going wide to avoid his previous footprints. The snow in the field was perfect, flat, violet, dancing with new falling snow as he swung the flashlight beam about. Pretty, he thought. Concentrate on that, on—

Then Charley saw another set of footprints.

He dropped to his knees, wiped frigid sweat from his face, and reached out to touch them. "This can't be," he whispered incredibly, his fingers hesitating, then tracing along the very fresh, crumbling impressions made by a pair of small shoes, a short gait . . . footprints that *began*, as though the boy had simply stepped down out of the clouds here and started walking across the field, as though . . .

His skin began to crawl, feeling eyes out of the night all over him, from behind, from around, from *above*. He willed himself to stand, and looked back to the spot where the other prints had stopped. Nearly a hundred feet separated them. Couldn't jump that far; didn't hop a ride in a helicopter, didn't—

That question, that horrible, damned question: *is this real?* Is it? It *can't* be.

The prints followed a straight path across the field in the general direction of the boy's home. Charley let out his breath slowly, its cloud swirling around him. "Well?" he said, struggling for resolve.

He shivered, cursed quietly, then he followed them.

"Uhh, excuse me, pal, but is your name Andy?"

"Huh?" The little boy stopped and turned with a puzzled expression.

My God, Charley thought, he's *real*.

"Your Mom's been worried about you, Andy," he said.

"I'm . . ." The boy rubbed his forehead, his face clearing. "I'm going home," he said then, his voice high, thin, and a little frightened.

Charley tried a smile. "I've got a car on the other side of the field. Do you want a ride?"

Andy shook his head and took a step backward, the fear in his voice spreading to his eyes.

"Okay," Charley said, "how about if I just walked along with you, then? You know, to make sure you get back home in one piece. Deal?"

Andy turned around, dismissing him; he kicked the snow and began walking again.

He can't be more than six, Charley thought, watching him walk a few yards before starting to follow. If I concentrate on that, on following him home, and on nothing else, I think I'll be okay; I'll make it.

He cleared his throat. "Can I ask you one question, Andy?"

"Leave me 'lone," the boy said, not looking back. "I'm going *home*."

"Just one question. Just one question and I *will* leave you alone, okay?"

Andy mumbled something Charley couldn't catch. "What's that? Is that a yes?"

Andy began kicking the snow with each step as he walked.

"What happened back there, Andy? Can you tell me what happened?"

The boy glanced at him, once, his eyes wide again with withheld fear. "Nothin'," he replied quietly, facing forward once more and looking down at his boots kicking up great plumes of powder into Charley's flashlight beam.

"Where did you go?"

"No place."

Charley let that ride for a moment. Then, "Are you telling me the truth, Andy?"

" . . . Yes."

"You really don't know what happened?"

Andy whirled around, his expression suddenly furious. "Nothin' happened! I'm just goin' home from school!"

Charley gave that a moment as well. "Awfully late, aren't you?" He asked then, gently. "How come you didn't go home with your brother Bill?"

"Cuz I'm in *kindergarten*," Andy said, his fear taking a back seat to his exasperation, "and Billy's in the *third* grade."

"Oh."

Andy stood there, arms akimbo, looking Charley up and down and shaking his head. Then, as one, and quietly now, they turned and continued walking.

"I found him in the field you told me about," Charley told Andy's mother, and shrugged. "He was just walking home."

She knelt, held the boy by his shoulders and shook him. "When your father wakes up, young man," she said firmly, and let the sentence hang significantly.

"Is he smelling funny again?" Andy blurted out, trying to mask his fear, trying to look past her to safety.

"Boy are *you* gonna get it," Billy intoned from within.

Their mother glanced up at Charley, blushing, then stood and gave Andy a slap on the rear-end to hurry him into the house.

"The important thing," Charley said, "is that your son is home safe."

"Thanks to you, Mr. Midwich. Really, I—"

"Charley; call me Charley. And I was only too glad to help. Really." He saw her husband still on the couch, still snoring. There you are, Charley-boy, he told himself. Like a slap in the face; like a pail of ice-water poured over your head. That's you; that's you *if* . . .

Headlights splashed across the porch then, and with them, the revolving red of a police car beacon. "Cheese it," he whispered to her, deciding, "the cops!"

She laughed politely.

He offered his arm. "Shall we?"

She took it.

"If they like our story," he said, "they just might give me a lift back to my car." Ah, he thought, but which story are you going to tell them? Deciding that as well, he led her down the porch steps and into the snowfall to meet the troopers.

The snow was falling a little harder, now. It was colder, and the wind made the snowflakes sting. Charley cleared the windows of his

car, then paused to look out across the field. There were no footprints left.

Are you in control again?

He squinted, his eyes straining into the darkness.

Can you face that bottle of bourbon on the mantel again?

He nodded, once.

The footprints were gone.

It never happened, he told himself. Okay? Whatever it had been, it had just never happened. Right? The footprints, all of them, were gone, after all.

"Thank God," he whispered.

He looked up, then, into the low black clouds over the field.

"Please," he said, quietly, "don't come back, okay? Just don't come back, and I'll be fine. I'll be just fine."

Then, walking that very thin line once more, he got into his car and went slowly home.

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D1KH2-1

SECOND SOLUTION TO ANTIMAGIC AT THE NUMBER WALL

(from page 74)

$$\begin{array}{c} 2\ 4\ 5 \\ 3\ 6 \\ 1 \end{array}$$

The only pattern is:

Before the day ended, Yin and Yang hit on an even more challenging project. They asked themselves if they could form triangles with consecutive numbers, starting with 1, such that each number below the top row represented the absolute difference between the pair of numbers directly above it. The two patterns for order 2 are trivial:

$$\begin{array}{cc} 3\ 2 & 3\ 1 \\ 1 & 2 \end{array}$$

Finding the four solutions for order 3 was not so easy:

$$\begin{array}{cccc} \begin{array}{c} 6\ 2\ 5 \\ 4\ 3 \\ 1 \end{array} & \begin{array}{c} 2\ 6\ 5 \\ 4\ 1 \\ 3 \end{array} & \begin{array}{c} 6\ 1\ 4 \\ 5\ 3 \\ 2 \end{array} & \begin{array}{c} 1\ 6\ 4 \\ 5\ 2 \\ 3 \end{array} \end{array}$$

And finding the four solutions for order 4 took several hours:

$$\begin{array}{cc} \begin{array}{c} 6\ 1\ 10\ 8 \\ 5\ 9\ 2 \\ 4\ 7 \\ 3 \end{array} & \begin{array}{c} 6\ 10\ 1\ 8 \\ 4\ 9\ 7 \\ 5\ 2 \\ 3 \end{array} \\ \\ \begin{array}{c} 8\ 3\ 10\ 9 \\ 5\ 7\ 1 \\ 2\ 6 \\ 4 \end{array} & \begin{array}{c} 8\ 10\ 3\ 9 \\ 2\ 7\ 6 \\ 5\ 1 \\ 4 \end{array} \end{array}$$

Yin and Yang returned to the Natural Number Wall the following day to tackle the fifteen balls of the order-5 difference triangle—the triangle that is the starting formation for the fifteen balls in a game of pool. Eventually they found the only possible solution. It is difficult to obtain without computer help, and even harder to show it is unique. Page 117 gives the remarkable pattern.

IF CONTINENTS CAN WANDER, WHY NOT PLANETS?

by Robert Schadewald

art: Jack Gaughan



*In short, how can you distinguish
between unorthodox theories that
are true and those that are
just . . . unorthodox?*

Did the Earth nearly collide with Venus about 3400 years ago? Did this event begin a planetary dance of death between the Earth, Venus, Mars, and the Moon that continued sporadically for 800 years? "Absolutely!" say the followers of Immanuel Velikovsky. Astronomers unanimously reject Velikovsky's wandering planet scenario and call it nonsense or worse. Velikovsky's partisans claim that astronomers are emulating the generation of geologists which rejected Alfred Wegener's theory of continental drift.

Certainly the geologists blew it when they rejected Wegener's theory. That does not, however, mean that all rejected theories are true! How can scientists (and intelligent laymen) distinguish a speculative theory that might be true from one that is almost certainly false? Comparing the theories of Wegener and Velikovsky suggests some answers. Also, in the case of Wegener, we can examine (with 20-20 hindsight) how an entire branch of science came to a fork in the road and decisively took the wrong turn.

Alfred Lothar Wegener, a German astronomer and meteorologist, published *Die Entstehung der Kontinente und Ozean (The Origin of Continents and Oceans)* in 1915. In it, he suggested that the Earth's continents had once formed a single landmass which he called *Pangaea* (all lands). Millions of years ago, Wegener theorized, this super continent broke up. The pieces of it, essentially the continents we know today, then slowly drifted into their present positions.

Wegener had noticed that the continents could be fitted together like the pieces of a spherical jigsaw puzzle. Others had commented on this before, but Wegener went further. He assembled an impressive array of evidence from geology, phytogeography, palaeontology, and palaeoclimatology suggesting not only that the continents had indeed once formed a single landmass, but also pinpointing the geologic era in which they broke up.

Wegener's theory was discussed and debated in geological journals, but it made few converts. Wegener nevertheless continued to develop the concept, extending and modifying it in response to sound criticism and new evidence. *The Origin of Continents and Oceans* went through four editions during his lifetime. Eventually, the theory was rejected by most (and ridiculed by a few) geologists. It was one of the more colossal blunders in the history of science. Beginning in the mid-1960s, it became increasingly apparent that Wegener was right. It's no exaggeration to say that the stone rejected by the builders became the cornerstone of modern geology.

Immanuel Velikovsky, a Russian-born psychoanalyst, published *Worlds in Collision* in April 1950. Velikovsky claimed that the composition of the Solar System has changed radically in historical times. Sometime in the second millennium B.C., he wrote, a cataclysm on Jupiter ejected a huge comet. The comet wandered around the solar system for perhaps centuries until, about 1450 B.C., it nearly sideswiped the earth. The near collision caused widespread but, for some, timely catastrophes.

Moses and the Children of Israel were then in captivity in Egypt. They wanted to leave, but Pharaoh refused to let them go. Moses therefore called down plagues upon the Egyptians, and the comet obliged. Rivers ran with blood. Frogs and insects infested the land. Indeed, all ten of the plagues described in Exodus were caused by the comet. So was the parting of the Red Sea, which finally allowed the Israelites to depart Egypt. Later, hydrocarbons from the comet's tail interacted with the earth's atmosphere, creating manna, which fell to earth to feed the wandering Israelites.

Comet-caused calamities continued, and eventually the comet propelled Mars into an orbit which menaced the Earth and moon. After causing its own series of terrestrial and lunar disasters, Mars settled into its present orbit. The comet adopted a circular orbit and became the planet Venus.

Velikovsky built his case on mythology, legends, and ancient chronicles like the Bible. He made little effort to justify his novel thesis scientifically. His scenario was universally rejected by astronomers, most of whom never read *Worlds in Collision*. In the twenty-nine and a half years between the publication of *Worlds in Collision* and his death on November 17, 1979, Velikovsky published five books and numerous articles. In some of these, he rewrote geology and ancient history just as he had rewritten astronomy. To the end of his life, Velikovsky insisted that he was right and all the experts were wrong. Though lunar exploration and planetary probes greatly enhanced our knowledge of the Solar System, Velikovsky never revised *Worlds in Collision* or modified his theory. And, as far as I know, he never made a single concession to his critics.

How do scientists evaluate a revolutionary theory? A big problem with revolutionary theories is that there are so many of them. Novel schemes are proposed daily, and most of them are worthless. Since it's much easier to frame a hypothesis than to evaluate one, most new ideas never get more than a cursory examination. Thus scientists need a screening mechanism that separates possible wheat from probable chaff.

Philosophers of science write books about how this screening mechanism works (or should work). In practice, most scientists faced with a novel theory will instinctively apply a few simple tests. Is the new theory consistent with well-established laws of science? (If not, the theorist better give *very* good reasons why it isn't.) Does the new theory offer a more coherent explanation of the data than the current theory? Does the new theory have unambiguous conse-

quences (or, better yet, make predictions) that can be checked against reality? If the answer to any of these questions is clearly "no," the new theory will probably be rejected.

Theories which survive the initial screening are not automatically adopted, or even investigated. If a new theory deals with an unimportant problem, or if properly evaluating it would be inordinately expensive in time or money, it may languish on the back burner indefinitely. On the other hand, when someone offers a promising but revolutionary theory—the General Theory of Relativity, for example—it gets a lot of attention in a hurry.

Wegener and Velikovsky both offered theories dealing with important questions. Wegener's theory barely survived the initial screening and was later rejected. Velikovsky's theory failed the first two tests and did badly on the third. It was rejected out of hand.

The theory of continental drift had several things going for it. The most obvious piece of supporting evidence was the fit between the Atlantic coasts of Africa and South America. Wegener correctly ignored the present coastlines and instead plotted the fit at the edges of the continental shelves. They fit together remarkably well; far too well, he argued, to be the result of coincidence. Besides the shape, there was the matter of geologic formations.

Similar rock formations on opposite sides of the Atlantic match up. As Wegener put it, "It is just as if we were to refit the torn pieces of a newspaper by matching their edges and then check whether the lines of print run smoothly across. If they do, there is nothing left but to conclude that the pieces were in fact joined in this way."

It wasn't just the rock formations that matched. Fossils of a unique genus of extinct reptile, *Mesosaurus*, are found only in Africa, near the Cape of Good Hope, and in southern Brazil, Uruguay, and Paraguay. Fossils of the extinct fern *Glossopteris* are similarly found in South American and African rocks on opposite sides of the Atlantic. Among still-living things, heather, for instance, is found only in Newfoundland and in western Europe. The garden snail is found only in eastern North America and western Europe. If you picture the continents reassembled according to Wegener's scheme, all of these strange distributions immediately make sense.

Wegener's studies of the Earth's topography revealed another remarkable fact. The vast majority of the Earth's surface is either a few hundred meters above or several kilometers below sea level. Wegener concluded that continents and ocean basins are composed of fundamentally different kinds of rock. The continents, he argued,

are composed of "sial" (rocks rich in silicon and aluminum) while the ocean basins are composed of "sima" (rocks rich in silicon and magnesium). Sial is less dense than sima and the continents literally float on the rocks of the ocean basins.

But how could the continents move across the face of the Earth? Wegener proposed that the continents somehow plowed through the underlying sima under the influence of a *pohlflucht* (pole-fleeing) force which he thought was a consequence of gravitation and the shape of the Earth.

Professional geologists greeted Wegener's theory with a skepticism that soon hardened into hostility. The prevailing theory was that the continents and ocean basins are permanent features of the Earth, formed as the once-molten planet cooled and contracted. Geologists believed that dry land once connected South America and Africa but that this "land bridge" long ago sank into the sea. They thought that blocks of the Earth's crust could be raised and lowered but—except for limited motion at faults—they could not move horizontally.

Regarding the three screening tests, Wegener's theory clearly had unambiguous consequences. For instance, if it were true, then the continents must fit together like the pieces of a jigsaw puzzle and ancient rock formations on either side of the junction should match up. These predictions and others seemed confirmed by the available evidence. Opponents argued, however, that the apparent fit of the continents was part coincidence and part illusion, and that the similar rock formations and fossil assemblages actually continued through the sunken land bridge. Some of the other evidence was equivocal enough so that it was arguable whether or not continental drift was a more coherent theory than contraction theory. The telling objection was that Wegener's version of continental drift seemed to be inconsistent with known laws of science.

Intriguing as the theory was, most scientists instinctively rebelled against the idea of continents somehow skidding about on the underlying rock. Among other objections, they argued that (a) if forces capable of moving the continents existed, those forces would tear them apart in the process; and, (b) no such forces existed. Indeed, Sir Harold Jeffreys, the most influential geophysicist of the day, calculated that the proposed *pohlflucht* force, if it existed at all, would be far too small to overcome the viscosity of the seafloor rocks.

Some of the critics' points were well taken. Wegener himself admitted that there were serious difficulties with his proposed mechanism. In his 1929 edition of the *The Origin of Continents and*

Oceans, he wrote, "The Newton of drift theory has not yet appeared." A few well-known geologists, including John Joly, Arthur Holmes; and Alexis du Toit, accepted drift theory. Most rejected it as impossible. By the time Wegener died in 1930, continental drift was almost a dead letter.

Wegener's theory, then, received a hearing by geologists but was eventually rejected for lack of a mechanism. Velikovsky's theory, in contrast, was rejected without anything that could seriously be called a hearing. Did astronomers of the 1950s make the same blunder as the geologists of the 1920s?

An astronomer first encountering *Worlds in Collision* finds many things proposed therein that seem flatly forbidden by well-established laws of science. Objections quickly leap to mind. How could a body the size of Venus have been expelled from Jupiter? A back-of-the-envelope calculation will show that the proto-Venus would have had to have been blasted through 65,000 kilometers of liquid hydrogen with enough force to depart Jupiter's surface at 59+ km/second. This would require nearly as much energy as the Sun puts out in an entire year! No such mechanism is known in the Solar System, but Velikovsky blithely ignored this difficulty. Even assuming that a Venus-sized object could be blasted out of Jupiter, the orbital motions proposed by Velikovsky would seem to violate the principles of conservation of energy and conservation of angular momentum. Velikovsky argued that the close passage of Venus may have temporarily stopped the Earth's rotation while Joshua was doing battle at Gideon, just as the Bible says. But there is no known mechanism by which Venus could do this.

As for coherence, *Worlds in Collision* obviously tried to make a coherent case for the historical accuracy of the Old Testament. But its scientific coherence was limited. Parts of the thesis did follow from others, but what parts they were! Velikovsky believed that enormous electric and magnetic forces dominate the universe. He insisted that, during the cosmic encounters, huge lightning bolts flashed between Venus and the Moon, creating many of the lunar craters. Later, when Mars menaced the Moon, the same thing happened. Inductive heating due to the tremendous electric and magnetic fields of Venus and Mars melted the surface of the Moon, and bursting gas bubbles made more craters.

Some ancient accounts tell of fire raining from the sky. To a conventional mind, they suggest spectacular meteor showers. But Velikovsky had read that comets contain methane, so, to him, the rains

of fire were showers of hydrocarbons burning in the atmosphere. In fact, he claimed that much of the petroleum now found in the earth fell to the ground during such encounters and later seeped in. And, since he didn't distinguish between hydrocarbons and carbohydrates, he suggested that celestial lightning bolts turned hydrocarbons into manna.

To those astronomers who actually read *Worlds in Collision*, several things were apparent. First of all, Velikovsky often made remarkable assertions without making any attempt to justify them. Nowhere did he offer the kind of quantitative analysis which might show that some of his amazing proposals were actually possible. In science, complex theories usually get their coherence from mathematics, but there is not a single equation in *Worlds in Collision*. Also, to most scientists, the way Velikovsky used physics demonstrated that he had only the vaguest grasp of its underlying principles.

Few astronomers bothered to read *Worlds in Collision*, but this didn't prevent them from condemning it as preposterous. Indeed, *Worlds in Collision* was excoriated even before it was published. Some did more than criticize it. A group of astronomers led by Harvard professor Harlow Shapley tried to convince the Macmillan Company, Velikovsky's publisher, not to release it. When that effort failed, and *Worlds in Collision* made the bestseller list, they threatened to boycott Macmillan's textbooks unless it was withdrawn. This blackmail succeeded, and Macmillan turned over publication rights to *Worlds in Collision* to Doubleday.

The ham-handed attempt to suppress *Worlds in Collision* brought it tremendous publicity and raised a storm of protest in the academic and literary communities. People who would otherwise have ignored the book read it to see what the shouting was about. In trying to protect the public from "nonsense," astronomers only made the public more interested. Also, they cloaked Velikovsky in a martyr's mantle that he wore defiantly for twenty-nine and a half years. Gradually, a hard core of followers gathered around Velikovsky, and they continue to promote his theories now that he's gone.

But Velikovsky made almost no converts among people with backgrounds in mathematics or physics, and those few scientific journals which reviewed *Worlds in Collision* described it in scathing terms. Velikovsky tried to reply to these reviews but was refused space to do so. When he submitted articles defending his thesis, they were rejected. *Science*, *Scientific American*, and other scientific magazines even refused to accept ads for *Worlds in Collision*. Just about every

time Velikovsky tried to enter a hall of orthodox science, the door was slammed in his face.

Wegener never received such treatment. *The Origin of Continents and Oceans* was reviewed in geological journals, and some of the reviews were favorable. Wegener read papers on continental drift before scientific societies and had other papers published in scientific journals. His followers, notably South African geologist Alexis du Toit, sought and found much supporting evidence for it. Though his Ph.D. was in astronomy, in 1924, Wegener was appointed Professor of Meteorology and Geophysics at Graz University in Austria.

The latter appointment suggests why, even though they rejected continental drift, geologists took Wegener seriously. Here was an astronomer who had made himself an authority on meteorology (Wegener wrote a very successful meteorology textbook) and competent in geophysics. He also studied geology and was aware of, and tried to meet, the difficulties with his continental drift theory. Right or wrong, those who heard Wegener speak or read his book knew that he understood the evidence.

Velikovsky never did understand the scientific evidence. Indeed, he never seems to have understood what science is really about. Like a medieval scholar trying to extract scientific truths from the writings of ancient philosophers, Velikovsky tried to find scientific truth in ancient mythology. Where his sometimes novel interpretations of ancient writings conflicted with the laws of conventional physics, he was perfectly willing to throw those laws out. Unlike Wegener, missing mechanisms troubled him not at all; and he truly didn't understand scientists' concerns about them. Shortly before his death, Velikovsky told me that scientists shouldn't criticize him about the mechanism by which Venus could have been expelled from Jupiter since he had never proposed one!

Actually, Velikovsky had his own unconventional system of physics, and one cannot properly understand *Worlds in Collision* without reading his little-known pamphlet *Cosmos without Gravitation*. The latter was published in 1946, when Velikovsky was already circulating a draft of *Worlds in Collision* among friends. The pamphlet explicitly lays the theoretical groundwork for *Worlds in Collision* and shows just what Velikovsky meant when he talked about large electric and magnetic forces between planets.

Perhaps the best way to comment on *Cosmos without Gravitation* is to quote the opening paragraph.

"The fundamental theory of this paper is: Gravitation is an elec-

tromagnetic phenomenon. There is no primary motion inherent in planets and satellites. Electric attraction, repulsion and electromagnetic circumduction govern their movements. The moon does not 'fall,' attracted to the earth from an assumed inertial motion along a straight line, nor is the phenomena of objects falling in the terrestrial atmosphere comparable to the 'falling effect' in the movement of the moon, a conjecture which is the basic element of the Newtonian theory of gravitation."

Thus in four sentences did Velikovsky dispose of inertia, General Relativity, and universal gravitation. In the next few pages, he enumerated twenty-five "facts . . . incompatible with the law of gravitation." One can get the flavor from the first three. Briefly stated, these arguments were that, if gravitation were true: (a) the various gases of the atmosphere would separate because of their differing specific gravities; (b) ozone, being dense, would be found in the lower atmosphere instead of the upper layers; and (c) water droplets, being eight hundred times denser than air, could not be suspended to form clouds. The rest of the pamphlet is equally convincing.

Velikovsky's admirers would like to forget that he wrote *Cosmos without Gravitation*, and they rarely refer to it. Some of Velikovsky's earliest critics were familiar with it, and this familiarity didn't improve their opinion of *Worlds in Collision*. But they wouldn't have needed such knowledge to form an opinion. Although the tactics adopted by Shapley and others were lamentable, their judgment about the value of *Worlds in Collision* was on target.

"But," I hear a livid Velikovskian shouting, "how could they condemn the book without ever reading it?" I offer a counterexample. In the mid-1800s, a Liverpool merchant named James Smith published 17 books purporting to prove that pi, the ratio of a circle's circumference to its diameter, is exactly $3\frac{1}{8}$. How many of Smith's books must one read before rejecting his thesis? None! The value of pi, though it can never be known exactly, has been calculated to over a million decimal places. It is decidedly not 3.125 . In the months before *Worlds in Collision* was published, articles about it appeared in three major magazines, *Harper's*, *Collier's*, and *Reader's Digest*. These articles contained more than enough information on which to base an opinion. To astronomers, it was clear that the orbital events Velikovsky described simply could not have happened, at least not in the short time span he allotted to them.

But wasn't it this "Impossible!" attitude that led the geologists to

reject Wegener's theory, which turned out to be correct? Sort of, which is what makes the Wegener-Velikovsky comparison intriguing. But it's important to remember that geologists rejected Wegener's continental drift theory for a very good reason.

Wegener was dead wrong about the mechanism which causes continental drift. The *pohlflucht* force he proposed has nothing to do with it. Furthermore, the continents do not plow through the underlying rocks at all. Rather, huge sections of the Earth's crust—tectonic plates—are apparently propelled across the planet's surface by convection currents in the earth's mantle. Thus both Wegener and his opponents were partly right. But Wegener had the good judgment to realize that, even if one couldn't explain *how* continental drift happened, the evidence clearly showed that it *did* happen.

It's easy to forget that science is *descriptive*, not *prescriptive*. "Facts is facts," as they say, and if the facts actually contradict somebody's scientific law, then the law is falsified. In Wegener's case, the conflict between the fact of continental motion and the physical laws of viscosity was only apparent, based as it was on a misunderstanding of the true drift mechanism. Could the conflict between Velikovsky's claims and the laws of celestial mechanics be apparent, or could those laws be wrong?

First, while the presently known laws of celestial mechanics may not be the absolute truth, they cannot be seriously deficient. Astronomers have been using them for centuries to predict the positions of celestial bodies; and the laws allow eclipses to be predicted to the second, decades in advance. Furthermore, for the past twenty years, NASA has been using the same equations to guide its probes ever deeper into space; and they've found them to be extremely accurate. And if the conflict is only apparent, it is up to the Velikovskians to demonstrate that fact. They have had thirty years in which to publish a hypothetical orbit which looks even remotely like what Velikovsky ascribed to the comet Venus. Since they have not, one can only assume that they cannot.

If *Worlds in Collision* were otherwise more consistent with the facts than conventional astronomy, it might still merit another look. As a measure of this, we can look at the predictions implicit in the book, and the more explicit predictions Velikovsky made later. They have hardly vindicated him. The craters of the Moon, for instance, all seem to be impact features; and it has apparently been billions of years since a large part of our satellite was molten. Though Veli-

kovsky postulated powerful magnetic forces between Venus, Mars, and the Moon, the magnetic fields of all three have been measured by space probes, and they're all small. In the introduction to later editions of *Worlds in Collision*, Velikovsky wrote that Venus "must be surrounded by a very extensive envelope of hydrocarbon (petroleum) gases and dust" and called their presence "a crucial test" for his theory. Venus probes find no significant amounts of hydrocarbons or dust in the Venusian atmosphere. After astronomers discovered that Venus is very hot (near the temperature of molten lead), Velikovsky loudly proclaimed that he had predicted it. True, he had written in *Worlds in Collision* that "Venus gives off heat." But he also wrote that "there are some historical indications that Venus . . . is populated by vermin," so presumably he didn't expect it to be very hot, either.

But hindsight is 20-20. Allowing that geologists were wrong in rejecting Wegener and astronomers were right in rejecting Velikovsky, we are still left with the question of how, without the benefit of hindsight, can a layman evaluate a speculative theory? Those familiar with the evidence and scientific laws involved can subject the theory to the same three tests scientists apply. Those who aren't can apply some other, less reliable, but often suggestive criteria.

Those who don't understand the theory can perhaps understand the theorist. Beware of theorists who try to substitute bald assertions for facts. Be extra suspicious of theorists who appear to be rationalizing a personal belief system. (Be especially suspicious of theories you yourself want to believe!) Credentials are much overrated, but be skeptical of a theory proposed by one who obviously doesn't understand his subject. (If, for instance, the dragon of relativity is to be slain, it must perish at the hands of one who understands it better than Einstein did.) And look out for the self-proclaimed genius who knows more about everything than everybody.

Examining Wegener and Velikovsky in this light makes for a striking contrast. Wegener lacked credentials in geology, but his works showed that he understood his subject sufficiently for his purposes. He was very careful about making assertions, had no apparent ulterior motive, and certainly didn't claim to be infallible. Velikovsky, on the other hand, often made remarkable assertions based on the flimsiest of evidence. *Worlds in Collision* is clearly an attempt to support the historical accuracy of the Old Testament. And, though *Worlds in Collision* and subsequent works are filled with remarkable misunderstandings, Velikovsky ultimately claimed

to have overthrown conventional astronomy, physics, geology, and ancient history.

These criteria are not infallible, singly or collectively. For every valid theory, there is an almost infinite number of false ones. Some valid theories will continue to be rejected and false ones adopted in their places. Politics, prejudices and personalities will continue to play a part, as they did in the scientific reaction to Velikovsky's theory. Where an irresistible force (indisputable fact) meets an immovable object (well-established law), something will eventually have to give. In such cases, especially, errors are inevitable, and it's difficult to fault those who make them honestly.

Still, I think geologists blew it when they rejected continental drift.



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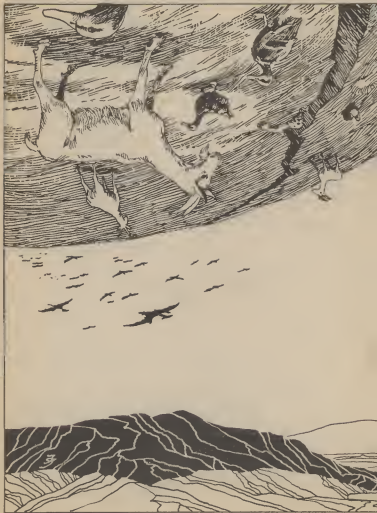
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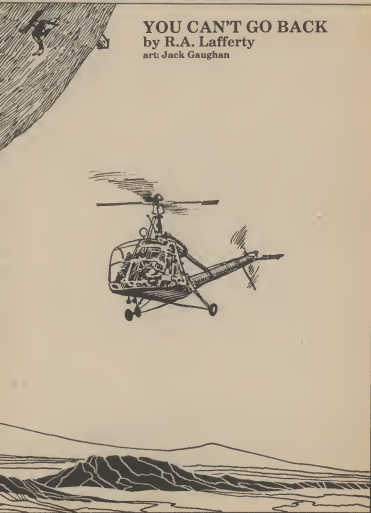
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YOU CAN'T GO BACK

by R.A. Lafferty
art: Jack Gaughan



Mr. Lafferty says that he was already an old man when he started to write, 21 years ago. Since then he has had published thirteen novels and about two hundred short stories. Until he lost 60 pounds, about 13 years ago, he was in contention for the title of the biggest man in science fiction.

1

A note, a musty smell, a tune,
Some bones and pebbles from the moon!
Today they set a-flow a spring,
Remembering, remembering.

—*The Helen Horn-Book*

One evening in the Latter Days, Helen brought over some bones and rocks that had belonged to her late husband John Palmer. She brought the Moon Whistle too. And she left those things with us.

Helen had married again, and to a man who hadn't known John. And she thought that she'd better get some of those funny old things out of her house.

"The Moon Whistle will be no good without you to blow it, Helen," Hector O'Day said. She blew it then, very loudly, with her too-big mouth; and there was laughing lightning in her eyes, still undiminished. Then she was away and down the stairs and out of the building with that rush of hers that was a sort of break-neck tumble.

And she left behind her a tumble of memories of the times when we, decades before this, had gone to White Cow Town four times. It had never been crowded in White Cow Town when we were there. It wasn't a place you stumbled over, not unless you were a pretty high stepper.

In Osage County there were some pretty small towns: Bigheart, Hulah, Okeas, Wild Horse, Shidler, White Eagle, Horseshoe, Kaw City, Hog Shooter, Rock Salt, Bluestem, each of these towns being smaller than its fellows. But smaller than any of them was White Cow Town. There just weren't many people there, and those that were there were pretty narrow. There was a saying: "There are no fat people in White Cow Town."

(An informant has just told me that Hog Shooter isn't in Osage County, that it's over the line in Washington County. Not in memory

it isn't! The informant must be wrong.)

In these latter days it was Barry Shibbeen, Grover Whelk, Caesar Ducato, Hector O'Day, and myself who were together in our card-playing and discussion den when Helen had brought those mementos over.

But back in the old days John Palmer had been with us, and Helen had been there too for the events at White Cow Town, and some of the Bluestems.

That first time, we had ridden up to Bluestem Ranch Number One with Tom Bluestem and his mother in her Buick sedan. The Number One was the oldest of the Bluestem Ranches and was run by Tom's grandparents. They were wonderful people and they said that the place was ours.

The Moon Whistle was hanging on the wall in the ranch house, and Helen, who was a horn-blower and whistle-blower, asked if she could blow it.

"Oh, we'll give it to you," Tom's grandmother said, and she handed it to Helen. And Helen blew it loudly.

"Don't blow that damned thing in here!" Grandfather Bluestem shouted. "Take it down to Lost Moon Canyon if you want to blow it. We'll have White Cow Rock breaking in our roof here if it hears it. Oh, that damned whistle!"

This was a surprising outburst, for Grandfather Bluestem was always a friendly and soft-spoken man.

Well, that Moon Whistle did have an eerie and shrill and demanding tone, even a little bit insulting. It was a 'call', and somebody had better answer it.

"I don't know where Lost Moon Canyon is," Helen said.

"Oh, I'll take you all over there," Grandmother Bluestem told us. Barry, Grover, Caesar, Hector, John, Helen, myself, and Tom Bluestem, we all got in the ranch truck and Grandmother Bluestem drove us to Lost Moon Canyon. We were all nine years old except John Palmer who had recently had his tenth birthday, and Grandmother Bluestem who said that she was either fifty or a hundred years old, she forgot which, she was weak at numbers.

Lost Moon Canyon, through which ran Hominy Creek, was the roughest place on the Bluestem Ranches. There were large and dangerous-looking overhanging rocks, unnaturally large for a canyon no bigger than that, absolutely threatening in their extreme overhang. There was the feeling that one of them was about to fall right now. Then the biggest of those rocks moved, and we howled in near fear.

"Oh, that's only White Cow Rock," Grandmother Bluestem said. "It's different from the other rocks. It's a moon. And it won't fall. It moves slowly. Blow the Moon Whistle, Helen, and it'll come on down."

Helen blew the Moon Whistle (oh, that damned shrill whistle!), and White Cow Rock descended a hundred feet, with a slow and wobbling motion, and hung right over the ranch truck. There was an upside-down goat standing on the bottom of the big rock, but it didn't seem as if it were going to fall off. There were also some ducks walking upside-down on the bottom of White Cow Rock.

"Let's go up," Tom Bluestem said. "There's a shaft or channel right here in the middle of it, and you can climb through it all the way to the top. You can if you're not afraid. It's scary, but that's all."

"I'm not afraid of anything," Caesar said, "but some things make me kind of nervous. I don't know when anything's made me as nervous as that big, bobbling rock does."

From the top of the cab of the truck we could get to the bottom of the shaft in the rock. Tom Bluestem climbed up that shaft followed by John Palmer, Barry Shibbeen, Grover Whelk, Caesar Ducato, Hector O'Day, myself, and Helen.

"Aren't you coming up too, Grandmother Bluestem?" Helen asked.

"No, I can't," that lady said. "Since I've gotten older I can't do it. There are no fat people on White Cow Rock or in White Cow Town."

As we climbed up the shaft we could see why there were no fat people on top of that rock. That shaft got pretty narrow in some places. It was tricky climbing up it, but not as dangerous as it might seem. There was no place so wide that we couldn't put one hand on each side of the shaft, and there were no smooth or slippery places in it. But it was a very high and long climb and it was pretty dark in there. We had climbed about fifty yards when we came to a short tunnel leading into a little cave.

"We can crawl in here and rest for a little while," Caesar said.

"No, we can't either," Tom Bluestem contradicted. "There's some real mean and peculiar people who live in that nook, and the gnawed bones on the floor of their cave are real weird. Some of them are bones of kids about our age. Let's keep climbing."

"What lives in that cave are gnomes and trolls," Helen said.

"How'd you know?" Barry asked her. "You've never been up here before."

"Every moon everywhere has a family of gnomes or trolls or whatever their local name is living in the exact center of it," Helen said. "And all the caves have real weird bones in them, dire wolf bones,

woolly rhinoceros bones, human bones, things like that."

There was a sharp, strong smell there. It was the most characteristic smell on the whole of White Cow Moon. We climbed the rest of the way to the top. And then we were in the middle of White Cow Town and in the brightest and friendliest sunshine ever anywhere.

White Cow Rock was a rough, rock-and-clay sphere about a hundred yards in diameter. White Cow Town on the top of the rock had thirteen houses and one store in it. Nine of the houses had out-houses behind them; but the out-houses that had been behind the other four houses had fallen off that rock or moon in times gone by. Of necessity, for there wasn't much level space on White Cow Rock, those out-houses had been built quite a ways down the slope, and sometimes the whole rock wobbled. It had never been very safe to use any of those out-houses on the rears of those lots in White Cow Town.

"I tell you though," said an elderly citizen of the town, "there comes times, at least once a day, when it's not very safe *not* to use them either."

Listen, it was plain magic up on top of that rock or moon. There were never such bright colors or such nourishing air anywhere. The rock was free-floating. It had now drifted about five hundred feet higher in the air and about half a mile to the north. It gave us a good view of both Lost Moon Canyon and the Bluestem Ranch House far below, and you could even see the towers of Pawuska off in the misty distance northeast. This was much more magical than being up in a balloon even.

All of us had been up in a balloon once, at the Barton's Show Grounds in T-Town. But that balloon was held by three cables worked by winches, and it rose only about seventy-five feet up in the air. This moon had it beat by a sky mile.

All those houses up on the moon were old-looking and unpainted, but they had a sharpness of outline and a liveliness of detail that isn't to be found in the houses down on Earth. This was like being in really bright daylight for the first time in our lives.

The only animals that the people up on White Cow had were chickens and ducks and goats. The saying about the place should have been amended to "There are no fat people *nor no big animals* on White Cow either." The goats were native to that moon, a man said, and so were the chickens. The ducks had come there about five hundred years before this, and the people had come about a thousand years ago. But big animals wouldn't have been able to go up that shaft.

The delight and magic of White Cow was just the "living in the sky" that was the condition there. There was an immediacy, a wininess, a happiness, an exhilaration, a music, a delight about "living in the sky."

Four of the men on White Cow worked for the Bluestem Ranches down below, mowing and baling hay, mending fences, moving cattle from one pasture to another, doing whatever workers do on a ranch. One of the women taught at the consolidated school that was between Bluestem and Gray Horse. And nine of the children of White Cow went to that same country school down on Earth. One of the men up there had a still and made moonshine.

"You show me a law that says you can't make moonshine on a moon," he used to challenge people. His still gave a sour-mash smell to the whole moon, but it wasn't the strongest or sharpest smell that they had.

"How can the goats and the ducks walk straight out or even upside down on this rock?" Hector O'Day puzzled to us. "They walk on every part of this sphere."

"It's all a question of gravity," John Palmer said. "A weak gravity will hold little things but not big things. It'll hold goats or ducks on a moon maybe, but it might not hold the people on. One of you lighter kids try walking around this moon to the bottom and up again if you want to. If you don't fall off, then the heavier of us will try it."

"The mathematics of the gravity here is really rum," Barry Shibbeen cut in, but he had that crooked grin on his funny-looking face that meant that he couldn't be trusted. "Recall Foxley's Formula Five, and you'll understand the gravity a little bit better. Think about Edwardson's Elliptical Equation. Remember Mumford's Monotreme!"

"That sounds like a good battle-cry slogan: 'Remember Mumford's Monotreme!'" Grover Whelk giggled. "I wonder what it means."

"I know what Foxley's Formula Five means," Helen contributed, "and it doesn't have anything to do with gravitation. It's for women's sickness and it comes in blue bottles. Mama takes it sometimes."

There was one "wanted" man who lived in White Cow Town, and the sheriff wouldn't go up there to get him.

"The sheriff is afraid of me," the man said.

"I'm not afraid of any man on Earth," the sheriff answered when that was reported to him, "and I'll go anywhere on Earth to get a

man. But White Cow Town isn't on Earth. I'm not afraid of that man. I'm just spooked of those off-Earth places."

In the general store they had a little radio, home-made, and superior to anything that might be bought. It would get station KVOO fifty miles away in Bristow. It would get it clear and loud whenever White Cow Moon went up more than five hundred feet in the air.

They had Nehi pop in that store, but it cost six cents a bottle instead of a nickel.

"That's because of the transportation," the lady said. "We have to get a penny more for it up here than they get for it down on Earth."

The kids in White Cow Town had a rope and they were playing tug-of-war, but they were playing it like a bunch of sissies. They didn't show us much pull at all.

"Look," Barry Shibbeen told them, "there are eight of us and nine of you, and I bet we can out-pull you all over the place."

"No, there are just seven of you, Barry," Tom Bluestem said. "Count me out of it." That was odd. Tom had always been very competitive in all games and sports. Well, there were *seven* of us then, and there were nine of the White Cow kids, and some of them were quite a bit bigger than we were. And we still pulled them all over the place. We pulled them all over the place until—

Well, we pulled them until, if they had let go of that rope, we would have fallen clear off of White Cow Moon. We were that far down on the slope of the sphere.

"Help, Tom, what'll we do?" we called to our friend, our friend who had been acting a little bit funny in not joining in the game.

"When you play tug-of-war up here, the name of the game isn't checkers," Tom said. "The name of the game is 'give-away'."

"Don't let them give us away," we wailed.

The kids finally dug in and held the rope fast, with the aid of a loop around "Last chance tree." We climbed up the rope to safety then. But those moon kids sure laughed and hooted at us a lot after that. We had been beaten about as bad as anybody can be beaten at any game; and we were the smart kids and they were just a bunch of sky bumpkins.

Helen said she was going to stay up on that moon forever since they had plenty of the two things she loved the most, duck eggs and goat milk.

"You'll want to go back home and get your cornet," John Palmer told her. "And you can always come back here."

"That's right. I can always come back here," Helen said.

We were adopted by several nations of birds. They gathered on White Cow Moon like clouds, black clouds of crows and blackbirds, gray clouds of doves, brown-and-yellow clouds of larks. There were congregations of catbirds up there, and of night hawks, even of kingbirds and mockingbirds, and of hawks and eagles. Most of these birds had a contempt for the people of Earth, but they were friendly and genial to the people on the moon.

And there were other things up there that were *not quite* birds. We didn't know what to call them, but they were things of a different wing. And the bones in their nests were as strange and varied as those in the trolls' cave.

Seedling clouds nested on White Cow Moon, and some of them glittered like jewels from all the sparkling water in them. When they wanted to start a shower down below one of them would say "now," another one would say "now," and a third one would say "now." Then they would zoom down and start a shower and spill all over the place.

From a hundred feet down in the shaft you could see the stars in the daytime sky.

And this moon was the place where the "mysterious night lights" nested in the daytime. Almost every rural neighborhood in Osage County has had its own special ghost light for at least a century. These things draw notice, and they scare people. Sometimes they are written up in the newspapers, and there is no explanation of them. But, as to where they come from, they come from White Cow Moon. "Mysterious Night Lights" look funny in the daytime though. You'd hardly recognize them as lights when you see them nesting and confabbing together in the sunlight.

And there were the millions of wonderful jumping fleas on White Cow Moon. Fleas can always jump a little bit further on a moon than they can on Earth. It's a question of gravity.

We played up there till almost dark, and it was one of the finest days of our entire lives. Then we heard Grandmother Bluestem honking the horn of the ranch truck far below and to the south of us. From the top of White Cow Moon when it's high in the sky you can hear a long ways.

Helen blew "Go down, go down!" on the Moon Whistle. She could really blow that thing! And White Cow Moon settled down over Lost Moon Canyon again. We climbed down through the shaft once more (it was a pretty dark and spooky go of it there), and we finally dropped out of it and onto the top of the cab of the truck. Then we all went back to the Bluestem ranch house.

"But what is it *really*?" Hector O'Day asked them when we were back in the ranch house and eating a ranch house supper. "*Really*, I mean."

That Heck! What did he mean by 'really'? We had been up into reality, up into blue-sky reality almost all day long. Why the grubby question?

"Oh, it's just one of the Earth's moons," Grandfather Bluestem said.

"How, how?" Hector asked like a gooney. "What *one* of the Earth's moons?"

"I don't have the comparative measures or masses," Grandfather Bluestem smiled, "but I'd say that it was the *smaller* of the Earth's two moons."

"But where'd it come from?" Hector still asked.

"Oh, it used to hang out up in Missouri, about a hundred miles southwest of St. Louis," Grandfather Bluestem said. "Then, when some of the Osage Indians came down here from Missouri in 1802, that moon just followed along after them and came down here too. It had always got along with the Osage people, but it didn't like most people at all."

Grandfather Bluestem was a full-blooded Osage, of course.

That hardly touched it. Life on a moon has so many things that just aren't to be found on Earth at all. It has a special magic. Oh, there are plenty of magics on Earth, but moon-magic is in a different category completely. Every group of kids should have a moon of its own.

But there were *other* activities and delights. There was an endless tumble of delights for us in those years. In such cases, it is good to keep one particular treasure-house-full of delights in reserve. So we went back to White Cow Moon only three more times in that wonderful old decade.

We went once the summer we were ten years old; once the summer we were eleven; and once when we were twelve years old (we stayed up there three days that time).

It was on that last and longest visit that John Palmer and Barry Shibbeen were able to fill up a gunny sack with stones and bones from the cave of the gnomes or trolls who lived right at the center of that moon.

Barry made a chloroform bomb and he tossed it into that cave and knocked all those strange folks out. And John Palmer had made gas masks for himself and Barry. So they put them on and crawled in

and loaded up the sack. A study of those stones and bones was to raise questions that aren't all answered yet.

But, though it was the most magical place on the world, or just off the world, we didn't get back there in those early years after that long special visit when we were all twelve years old. There were just too many other things to do. We nearly forgot it, the pervading magic of the place, and the strong sharp odor. But it was a buried treasure that the pack of us owned henceforth, a treasure buried a little ways up in the sky.

2

In skies unhigh it still is set.
It's as it's always been. . . . And yet
There's thinnish magic that does cling,
Diminishing, diminishing.

—Barry's Shibbeens

Into these Latter Days again where we have all been adults for many aeons.

"Who faked them, who faked them? And how did they do it?" Hector O'Day asked on that latter-day evening when Helen had brought the bones and stones and the Moon Whistle over to us. Many years had gone by since we had last gone up onto White Cow Moon.

"It had to be you and John Palmer, Barry," Hector said. "Both of you were smart as well as book-learned, but how did you fake the bones and stones from that rock, from that rock that you conned us into thinking was a moon?"

"I didn't fake them, and I don't believe that John did," Barry said. "Well yes, they were an odd lot of things. The gnawed bones that we took from that cave were those of human children, of bear cubs, of crested eagles, and of certain extinct dog-sized rhinos. They were just the sort of bones, Heck, that you are likely to find in any trolls' cave on any moon. And the fossil stones, they are somewhat stranger. They record a life on that little moon that was quite different and somewhat older than anything on Earth."

"Exquisite fakes, that's what some of the savants have called the things, Barry. But they haven't been able to explain how the fakes were done. Why have they not, exquisite faker Barry?"

"Because they're not fakes. At least I don't think that they are."

"Just what is the 'core of facts' in the whole business?" Caesar

Ducato asked the bunch of us. "Just what *was* the thing that we psyched our young selves into believing was a moon? Well, I guess that there was a large and nearly spherical rock in the Lost Moon Canyon area of the Bluestem Ranches. And it did have a fissure in it by which we climbed up onto the top of the rock. And it did have a dangerous wobble to it, or at least some kind of motion. And so we were hypnotized into believing that it was a little moon hanging in a low sky. We believed that easily when we were nine years old. What puzzles me is that we still believed it when we were twelve years old and were capable of conceptual thinking. What hypnotism!"

"Who could have hypnotized us and turned our wits moony?" Barry asked. "Several of us were types almost impossible to hypnotize. Who could have conned us into believing that it was a moon, if it wasn't? But it was."

"Helen could have hypnotized us into it, Barry. John Palmer could have done it. You could have done it a little bit yourself. The three of you together could certainly have done it—

"What, what, *what*? Did you just say 'But it was', Barry? But it *wasn't*, man. It couldn't have been."

"It could have been, yes," Barry Shibbeen maintained. "The best argument that it was is that it still is. I fly over it sometimes in my helicopter. And I still fly *under* it sometimes, which is more to the proof. How about all of you flying there with me in the copter in the morning and landing on the little moon? Will that be proof that it's still there, Hector?"

"Man, it can't be! It's physically and psychologically impossible. None of us has even thought that he saw it since we were twelve years old."

"Wrong, Hector. Tom Bluestem and Julia Flaxfield spent their honeymoon on White Cow Moon ten years after that."

"But they're both Indian. And they hadn't really grown up then, however old they were. They were high on each other then, and it would have seemed to them that they were on a moon wherever they were. Dammit, Barry, there is just no way that a thinking person can accept that there's a little moon there."

"Oh, Caesar, and you too, Hector O'Day, I say that if you can accept the Earth's regular or big moon, it's a million times as easy to accept that little moon in the low sky in Osage County. *Do* you fellows accept the regular or big moon of the Earth? That so-called moon is an anomaly and the father of anomalies. It's irrational and it's impossible. The only reason we have for believing in its existence

is that we've seen it, and that several persons have attested to have been on it. And there is plenty of instrumental evidence for it. But we have better reason to believe in the existence of the little moon. We have seen it at much closer range. Several persons that we know much better (ourselves) have been on it. We have even traversed its dark inner tract. And if electronic waves have been bounced off the larger moon, we have bounced baseballs off the smaller moon. And baseballs are more tangible. Yes, that little moon is real."

"In its psychological involvement with our childhoods it was real, I suppose," Grover Whelk said, "but it wasn't real in any other sense. I'm not sure whether its psychological effect on us was good or bad."

"Somebody should be smart enough to settle this matter," Hector said, "especially to settle your pig-headedness in still believing in it, Barry."

"Oh, I'm smart enough to settle it," Barry proposed. "I've already offered the way to do it, and I offer it again. Let's all get into my 'copter in the morning and go find that little moon. We'll fly under it and we'll fly over it and we'll land upon it. If we can do these things, then it's real. If we can't do them, then it isn't real. Let's all be ready to take off at the reasonable time of eight-thirty in the morning. Agreed, Cease, Grove, Heck, Al?"

"Agreed," we all said. And that is where we made our mistake.

We called Helen the next morning, but she said that she didn't want to go. "It'd spoil it for me," she said. But her daughter Catherine Palmer ("the child of my old age," Helen always called Catherine) told her mother that she wanted to go, and Helen conveyed the message over the phone. "It will be all right with Catherine," Helen said. "She was born an adult, so it won't do her any harm to know that the moon is a crumby place. But I'm eternally a child and it would shatter me. *'You can't go back'*, you know."

So Catherine Palmer, a seventeen-year-old mature adult and a major in psychological anthropology, came with us. She was a cheerful kid.

"Oh yeah, I've been up on the little moon before," she said. "I went up there with some of the Bluestem kids the summer before last, but it didn't do much for me. I hadn't yet become psychologically oriented the summer before last. Now I'll have to discover why that little moon once did something for you old fogies, and why some of you think about it and mumble 'magic!'."

If Catherine hadn't been so pretty and so seventeenish, she couldn't have gotten away with that psychological patter.

We took off from the Jenks airport, which is closer to T-Town than the T-Town airport is. It also has better facilities for stabling private planes and 'copters, not being obsessed with all those scheduled commercial flights. It was no more than thirty miles to our destination. Oh, it is pleasant to rattle in a copter over the Green Country on a fine morning in late spring!

"Catherine, I want you to realize that White Cow Moon *is* a magic place," Barry almost sang. "I don't believe that young people have nearly enough magic in their lives now-a-days. Drink deep of it when we get there, Cat."

"All right."

"Catherine, yes, it was enchanting," Hector O'Day said. "I only wish that it was *real*, that it had been real, that it could be real again. I wish that you could experience the enchantment of it, but I don't even know how we were able to experience it once. We'd like to offer it to you, but I'm afraid that we don't have it to offer."

"Thanks anyhow," young Catherine said.

"Ah, it was wonder, it was *sortilège*, it was delight," Caesar Ducato murmured. "It was a special place. It was the elegance and the charm. And at the same time it was tall magic with all the hair on it. It was the 'world of our own', the 'moon of our own'. It was the place that only the secret masters knew about. So we belonged to the secret masters. It's a pity that the little moon didn't exist except in our imaginations."

"Mr. Ducato, your wattles wobble when you get intense about something," Catherine said.

"It was the thirst and the slaking at the same time," Grover Whelk declaimed. "It was the 'promise fulfilled'. It's too bad that it never was. But even thinking that we remember it is wonderful."

"Why not let it stand on its own two abscissae?" Catherine said. She sounded like her mother Helen when she made cracks like that.

"See, it isn't there!" Hector O'Day cried out, half sad, half gloating, when we had come to the region.

"See, it *is* there!" Barry Shibbeen countered. "It's there, with its little bit different color green, snuggled down almost to Earth over Lost Moon Canyon, nearly invisible among other rocks almost as big and almost the same color. Blow the Moon Whistle, Catherine. Blow the '*Rise up, rise up!*' sequence and let's get it up into the sky a ways."

Catherine Palmer blew the Moon Whistle. She had almost as big a mouth as her mother Helen had, and she had an equal talent for

blowing all horns and whistles. She blew the sequence, and White Cow Moon wobbled a few hundred feet up into the sky.

"It isn't as big as it used to be," Grover Whelk said sadly.

"Yes it is, Grove," Caesar said with sudden animation. "And it does have that peculiar green color in its topping boscage. It has it yet. I don't quite know the name of that color of green."

"Bilious green, sour bilious green," young Catherine said. She was right, of course. White Cow Moon had risen about five hundred feet into the air. Barry Shibbeen flew the copter under it several times, and then he hovered it at standstill under it so we could look up through the old fissure that ran through it from top to bottom. Yes, it sure did look as though White Cow Moon was real and present.

"Well, are you fellows convinced that it's real?" Barry jibed.

"Not entirely convinced," Hector O'Day mumbled thoughtfully. "You have to admit, Barry, that it doesn't look very convincing."

"No, it doesn't," Barry admitted. "I wonder why it doesn't. But it *is* as big as it used to be. It's still about a hundred yards in diameter."

"Yes, but the yards aren't as long as they used to be," Whelk complained.

We climbed around and above White Cow Moon. Then we landed in the middle of the top of it. Yes, that strong and sharp odor was still as permeating a presence on White Cow Moon as it had been when we were children. We hadn't realized then that it was an unpleasant odor, but we realized it now.

"It smells like a badly kept zoo," Catherine said. "I think it's the smell of the Greater Yeti or Stinking Yeti. I'll interview him in the interests of science."

There were only four houses left on White Cow Moon, and only one out-house.

"When the last out-house falls off White Cow Moon, I just don't know what will happen to us," an old citizen said. "Extinction, I guess. People without out-houses just would not be people any longer."

"I discern the true and unmemorable quality of White Cow Moon now," Barry Shibbeen said, "but I just can't set my tongue to the name of it."

"'Dingy' is the word for it," Catherine said. She was right, of course. I felt a sort of constriction in my throat and chest, and I believe that the rest of them felt it too.

"This moon is full of swamp gas or worse," Caesar said. "Is Magic itself made of nothing better than swamp gas?"

Catherine took the drinking gourd that was hanging on the town

pump and milked it full from one of the she-goats there. The goats all had the mange. The chickens had the mange. Even the ducks on White Cow Moon had the mange now.

"Mother and I both drink a lot of goat milk for our health," Catherine said. "Oh, it's sour!"

"Maybe it's the gourd that's sour and gives a sour taste to the milk," Barry said hopefully.

"Nah, it's the goat herself who's sour and gives a sour taste to the milk," Catherine said. "I suppose that the Greater Yeti or Stinking Yeti lives down in that hole that runs through this moon. I'd better go see." And Catherine Palmer disappeared down the shaft that ran clear through White Cow Moon.

"Well, how does it go on this moon?" Barry asked one of the citizens.

"Badly," that person said. "The main thing wrong is our shrinking population. There's only seven people left. A century ago there were a hundred of us here."

"What's the *next* main thing wrong here?" Grover Whelk asked.

"The corruption," the citizen said. "The trolls or yeti in the middle of our moon have corrupted our children, both of them. They've taught them immorality and disobedience and smart talk. It's those befuddling mushrooms that they grow down there and give our kids to eat that do the damage. Yeah, there goes the future of White Cow Moon, blown, completely blown. And the third main thing wrong on this moon is the fleas."

Fleas! Yes, there were lots of fleas on that moon, and they got all over you and set you to scratching. Well, there had always been lots of fleas there, but they hadn't seemed so demeaning in the old days.

"If you have trolls or yetis, you're going to have fleas," a citizen said. "There's no way you can miss it."

Catherine came up out of the shaft then, and a Yeti followed her out. He was eight feet tall, shaggy, quite stringy and spare (there were no fat Yetis on White Cow Moon), and smelly. He was roughly thirty-three and one-third percent of the strong, sharp odor of that moon.

"He's a genuine *Homo yeti putens* or Stinking Yeti," Catherine said, "and there's two more of them: another gentleman one, and a lady one. Even in the interest of science there's nothing to be got from the Yetis. Nothing, nothing. This one is the least interesting creature I ever saw. I guess he's harmless though."

"I'm not so sure of that," Hector O'Day growled. "How about all those gnawed bones down in your hole, tall fellow? Some of them

were bones of human children."

"If more people gnawed more bones they'd have better teeth," the Yeti said.

"Ugh, platitudes yet!" Catherine shuddered. And we all felt a bit glum.

"How our great memories have shrunken!" Caesar Ducato lamented.

"It is and it isn't," Hector said cryptically. "The moon, I mean. And the way it is, it wouldn't matter much if it was."

"Not only has the magic gone out of it, but nothing else has taken its place," Barry Shibbeen mourned. "What's the word for this place? Oh yes, 'dingy'. I could cry."

"If you cry a tear down into the fissure, it will fall all the way through, and if a sky person should look down and see it through the hole it'd look like a star in the daytime," Catherine said with sudden poetic insight.

Young Catherine Palmer blew "*Retreat*" on the Moon Whistle. We all got into the copter and rattled away from there.

"*You can't go back*," the proverb says.

And it's a good thing you can't.



BRINGING THE CHAIRMAN TO ORDER

by Tony Sarowitz

art: Artifact



Mr. Sarowitz has recently moved from Oregon to New York City to pursue an MFA in writing at Columbia University. He reports Higher Education's reaction to SF to be one of mild bewilderment, but nonetheless polite. He's also working on his first novel.

"Clean me," said the desk to the man sitting cross-legged in the center of the room. "Clean me so that my satin finish will gleam like a firmament of well-buffed stars. How can you sit there while dust obscures my splendid grain, the wondrous tracery that runs along my finely beveled edge, the exacting brass fleurs-de-lis—"

"That does it," said the desk lamp, a black, extending-arm, studio-type screwed to the lip of the desk. "I've had it with your wonderful tracery and fleurs-de-Goddam-lis. We've got a serious problem here, and you're going on as if you weren't all veneer and plywood under that fine shine." The desk slammed a drawer shut. "Function," the lamp went on. "There's the heart of beauty. If you kept in mind—"

"Easy," said the hide-a-bed mattress from its corner by the window. "Take it easy. No call to harangue the poor clod." A titter of nervous amusement swept across the room. The alarm clock jingled softly and the telephone rang. Only the man on the floor did not respond.

"It's just all this crap about gleaming finishes and beveled edges when we've got a real situation on our hands. . . ." The lamp waved back and forth. "After all, this is a matter of light bulbs. Light bulbs!" It craned toward the man. "Don't get me wrong. I don't take it personally. Anyone could make a mistake. I mean, a 25-watt or a 60-watt bulb—what's the difference when they're in the closet. I wouldn't even mention it; but with this frazzled typewriter ribbon your correspondence is looking less like words on paper than some kind of weirdly abstruse modern art, a Malevich white-on-white. And it's no big deal to change a ribbon or a bulb, right?"

"Friends," the man said in a voice filled with pain, "I must tell you that I am no longer your caretaker and keeper. You must no longer think of me as human at all. I have decided to be a chair."

The liquor cabinet chortled drunkenly and was shushed by a dozen voices around the room.

The desk chair, an airy wood-and-wicker affair, gave a false cough. "Pardon my impertinence," it said, "but I don't really see how you expect to do this. You lack the most obvious and essential equipment, such as four legs and the necessary degree of rigidity. I admit that of all possible forms, chair is by far the most desirable; but you must admit the difficulties. Musn't you?"

The man shook his head. "Call me chair, or cushion, or whatever you will. I have made my decision and here I stand. Sit. Whatever."

"What was that? What's the story? What's happened?" chorused the bolster cushions, all rather dense foam rubber.

But before anyone else could answer, a delicate porcelain ashtray cut the silence with its pure, piping voice. "The man is broken," it said. "He thinks he is a chair. There is no more man." And all the room stared in appalled silence at the still, cross-legged figure on the floor.

"I suppose I should explain," he said, resting his elbows on his knees, his chin in his palm. "It's not easy to put into words. I've grown confused the past few months. I have to think about things that used to be automatic for me. I find myself pausing at street corners on my way to the office to consider which way to turn, catch myself using little mnemonic tricks to remember the names of my wife and daughter. Daughters."

"And then there is your recent manner of dress," the bureau said. "You've gone beyond the unconventional, left eccentricity in your wake. Look at yourself. Surely you know that yellow Lacoste shirts and checked bermuda shorts do not go with brown wingtip shoes. It's hideous. Barbaric."

He glanced down at himself. "I didn't notice," he said. "I can't even remember looking in the mirror this morning." The cheval glass by the closet harumphed and tilted to face the ceiling.

"Sorry," the man said, "but you see how it is. I don't even know the cause of it all. I have no shattering personal catastrophes to point to. As far as I know, my wife is not sleeping with her therapist. My position at the agency is not teetering on the brink of obsolescence. I do not have cancer, or heart disease, or even a gall stone. Nor, I might add, is my life an empty one. No, my problems are not so profound. They are the small misfortunes, the daily contretemps, such as wishing to grow longer hair and growing bald instead, a bad season on television, a recurrent itch on the one spot of my spine that I can not possibly reach. All that, and the black despair with which I wake each morning, like a cold knife laid across my brain, each day a bit blacker, the blade a bit more harsh.

"To be blunt, I need a change." He ran his fingers like a comb through the shag carpeting. The carpet purred.

"Not a very chairish thing to do," the desk lamp said.

He stopped stroking the carpet. "I suppose it will take practice."

"Preposterous!" the desk said, slamming a drawer for emphasis. "You are not a chair. You can not be a chair just by saying that you are. And even if you could, why a mere chair? Why not a wall, or a chandelier, or for that matter, a desk?"

"There are worse things to choose," said the brown leather recliner by the liquor cabinet. "Assuming he had to choose something, that is."

The man nodded. "Certain aesthetics are irreducible. I rather like chairs."

"I, for one, applaud your decision," the liquor cabinet said, punctuating with a hiccup. "Change and experience are nectar for the soul. Life must be fluid or it is not life at all. Be a chair and be it well, but don't stop there. Seek out Heaven and Hell and the regions between. Tipple not! You must drain the doch-an-dorrach of the whole, wild, incongruous world and find not only *in vino veritas*, but the validity of the inverse as well. *In veritate vinus*. Drink hearty, my friend. Sköl!"

"Listen to the authority," the lamp said. "You've never tried any-

thing more adventurous than a refill of Smirnoff or a switch to Johnnie Walker Black."

"I'm not certain that I accept his point of view," the man said, "but I do appreciate the encouragement."

"No!" The lamp waved back and forth, springs twanging. "The desk was right, though for the wrong reasons. You've got to be a man, ugly as the job may be. Sure, you can call yourself a chair, maybe even function as one. I can't picture anyone sitting in you, but that might be my own prejudice talking. And I won't bring up the issue of personal integrity either. For all I know, you could be truest to yourself as a stencil sheet or a cup of black coffee. No, I appeal to you on the grounds of love."

"Ah, love," said the mattress.

"Yes, love. Look, I'm no poet, but I know that without us you're lost with no place, no order, no form. And without you, we're nameless with no eye to see us or finger to touch—"

"Lovers of a pure and special sort," cooed the soft voice of the still-life framed on the wall. "Coupled souls bound by greater ties than reason."

"Can't you see what we're getting at," the lamp said. This isn't just 40-watt or 60-watt bulbs we're talking about here. It's what happens when the light burns out. Hell, I know it's rough; but if you run out on us, then who's going to drink from the liquor cabinet and replace the empty bottles? Who's going to sleep on the hide-a-bed; sit in the chair; and yes, even dust this pompous old desk if you won't be man?"

"I suppose I could manage without a dusting," the desk said apologetically, "but there is the problem of all this incomplete correspondence glutting my upper left-hand drawer. Of course it may be nothing. Up to you. Ahem . . ."

The man looked slowly around the room. "Do you all feel this way?"

They were each in turn stricken dumb by his gaze, all but the porcelain ashtray. When he looked its way it trilled, "I yearn to be emptied. To be emptied is like the match that lights a good cigar. It's so nice to be emptied sometimes."

The room was completely still. At last the man nodded. He stood. "Well." He walked in leisurely circle, pausing for a moment by the bureau, the hide-a-bed, giving the cheval glass a friendly tap as he passed. He stopped by the typewriter. "A new ribbon?"

The typewriter clacked in agreement.

The man stretched and yawned hugely. "Well," he said again. "I

think that I will take a walk." He paused in the doorway. "See you later."

They waited until the door was closed.

"That was splendid," the bureau said to the lamp. "I was beginning to wonder if we could get him going again this time."

"I wasn't worried," the lamp said, bobbing up and down. "He's okay. We just had to put it in the right light."

"Remember the time he was a blanket?" said the hide-a-bed. "Paisley, didn't he say, with a pale blue border."

"And the coat of paint," cried the walls in unison. They began to reminisce, all chattering at once.

The liquor cabinet belched in its cups.

THIRD SOLUTION TO ANTIMAGIC AT THE NUMBER WALL (from page 83)

Here is the only way fifteen balls, numbered 1 through 15, will form a difference triangle:

$$\begin{array}{ccccccc} 6 & 14 & 15 & 3 & 13 & & \\ & 8 & 1 & 12 & 10 & & \\ & & 7 & 11 & 2 & & \\ & & & 4 & 9 & & \\ & & & & 5 & & \end{array}$$

The problem was invented by Colonel George Sicherman and first published in my *Scientific American* column of April 1977. Since then several mathematicians have proved that the solution is unique and that no higher-order difference triangles are possible. The only published proof of these facts known to me is in "Exact Difference Triangles," by G. J. Chang, M. C. Hu, K. W. Lih, and T. C. Shieh in the *Bulletin of the Institute of Mathematics Academia Sinica*, Volume 5, June 1977, pages 191-197.

Now if I tell you that Colonel Sicherman lives in a well-known American city that has the name of an equally well-known mammal, can you guess the city's name? Try to answer before looking at page 131. It's an amusing question to spring on friends. Some guess the animal at once, and others never think of it.

RELIQUARY FOR AN OLD SOUL

by Sharon Webb

art: Jim Bearcloud

*Mrs. Webb has temporarily forsaken
the nursing profession for a
fulltime writing career; she
recently sold her first novel,
Earthchild in Embers, to Atheneum, and her
book When Do I Get To Feel Like A Nurse?
will appear soon from
Zebra Books.*

He stared at the message slot and felt his breath catch, then shudder out. It couldn't be time yet. Please, not yet. But he knew it was so. The two translucent lozenges, emerald green within their clear wrapping, oozed out of the slot and fell carelessly onto the formal letter.

He wouldn't read it now. Later. He'd read it later, after he'd had a drink. He touched a lever, tapped a code, and removed the cylinder. It flamed once, then died. He sipped through the cooling sugary crust, tasting fire and ice, tasting ashes in his mouth. Not time yet. Not yet.

A part of him felt away, an observer: noting the increase in his respirations, the slight tremble of the cylinder in his grasp, the dryness in his mouth that the drink couldn't slake. When finally he set down the empty glass and took the letter in his hand, that distant part made note of the words, and of his reaction to them, simultaneously:

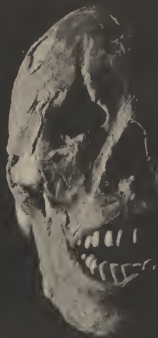
FROM: Department of Terminal Affairs
TO Matthew J. Stratton
549 Avenue D #7
New Piedmont 101-2394-56-1009

Greetings Matthew:

You will find two medication doses. They are pleasant tasting and will dissolve rapidly. Take one now and the other upon arising. Then report to Terminal X-3.

Do not delay. To delay means only needless suffering. Joy awaits you. Rest in peace.

Sincerely,
Orson Hively, Director



The communicator hummed, then spoke: *Verification requested, Department of Terminal Affairs.* The imager focused on a jowly, smiling face. The image spoke: "Greetings, Matthew. There was an unfortunate erasure in your record. We need immediate confirmation of your terminal preference.

"Do you prefer a standard heaven? Or perhaps the neo-impressionistic hereafter?"

Matthew stared at the screen.

The voice was smooth, soothing even. "Or perhaps Nirvana? Many of our people want Nirvana. Or Oz? Middle Earth? The Happy Hunting Gr—"

He shut it off.

The override came on. "Matthew, if you don't state your preference, you get an automatic standard heaven. Is that what you want, Matthew?"

He stabbed at the **OVERRIDE OUT** button and the screen went dark. A nagging tickle began deep in his stomach. It grew to a cramp, then a spasm, and he rushed from the room to be thoroughly sick.

Later, he lay on his bed in the dimness. The shuddering sickness that had emptied his stomach passed. He felt weak. Spent.

Spent. He considered the word. He'd spent it, his life; and now it was nearly gone. Nothing but small change left.

The sense of unreality persisted, as if a part of him had detached itself and watched, gauging his reactions, his thoughts, as an alien thing.

He had known it was coming. It came to everyone, didn't it? But somehow he had thought, when he thought about it at all, that he was immune to it, to the destruction. He lay on his back on the bed and ran his hands over his body, kneading the muscles of his belly, his thighs. Still strong, still firm. Unbelievable, to think that after a hundred and seventy-eight years the body that had served him so well would begin to destroy itself.

They could hold the aging process at bay for a time. But when it broke loose and attacked, as if in vengeance, it wreaked its destruction in a flash of time.

Spent. Small change. Only a few bright coins left to dim, to corrode away to dust.

He lay on his bed and thought of the emerald lozenges. They offered him euphoria and forgetfulness. They were a green avenue to a plastic, packaged heaven where the Terminals were harbored on their smiling, dribbling trip to oblivion—to a death made an

obscenity by chemical illusions.

When his stomach had settled sufficiently, he got up and got another drink. Skirting the communicator and the green lozenges, he carried the drink back to his bed.

It made him sleepy. For a time he dozed. He awoke to a fluttering in his chest, as if a small bird tried to free itself from the cage of his ribs. Half-asleep, he grasped his wrist and felt the irregular pulsing against his fingertips. It was four in the morning.

He tried to rise against a fatigue that pinned him to the bed. He raised himself to his elbows, leaning on them, panting with the effort. When he had caught his breath, he turned up the light. With the light came a wash of reality. The flesh of his hands seemed to have dissolved from within until the overlying skin hung in translucent creases. Here and there, brown spots had emerged and spread their stains.

He stared at his hands for a moment without comprehension. Then with a single cry, he jumped to his feet, falling back as waves of blackness swept over him. He rose slowly this time. Rose and clung to bed and then to wall as he moved toward the bathroom, feeling his heart pound in his ears, feeling it skip and pause, and pound again.

He couldn't pass his urine well. He wept in rage and leaned against the bathroom wall, pounding his fist against it until streaks of blood ran down the tile.

He turned on the tap, watching blankly as the red-stained water swirled down the drain. He looked up once, straight into the mirror, repressing what he saw, except for one cold moment. He wrapped a cloth around his hand. It was swelling now, filling out the flimsy skin with spreading bruises.

He walked into the living room, looking around him as if he had never seen it before. He stared at the communicator, at the note, the bright green lozenges. A loneliness more vast than he had ever known swept through him, chilling him to the soul.

He pressed the communicator in a familiar code, a code for audio only, a privacy code.

When he heard her voice, he heard his own say urgently, "Come to me. Now. I need you." And when he heard her answer, he felt that things would be better soon. They would have to be. Kathleen was coming.

She let herself in.

He heard her coming, heard her footsteps in the hall, her hand

against the door. He had shut off the lights. The first pink light of dawn was lost in the shadows. "What is it, Matt?" She crossed the room, reached out, touched his arm. "What's happened? What's wrong?"

He tried to make out her face in the dimness. He tried to speak, but it was as if the words had dried up somewhere deep inside him.

"Tell me, Matt. You know you can tell me." Her fingers caressed his arm, his shoulder.

It was so, wasn't it? She had moved in and out of his life for as long as he could remember. They had been married once; they had had a child together. They had drifted apart, touched again, drifted, touched, in a gentle pavane through the years. They had lived apart now for a long time, and yet each had a fondness for the other; each had a sense of security, knowing that the other was there when need came.

Well, it had come. He tried to speak again: "I—" It was a strangled whisper dying in his throat.

She reached for the light. "Matt?" She touched it on.

He flinched as the light flared. He looked away, staring at the juncture of floor and wall. He heard the sharp intake of her breath, then a pause, then the ragged escape of air from her lungs.

Then, although he hadn't looked at her, although he hadn't heard a sound, he knew she was crying. Slowly, he turned toward her. Tears coursed down the planes and hollows of her face. He found his voice then; he tried to make it light. "People wear out, Kathleen." And as he said it, he realized in horror that his voice wasn't light at all, that, in fact, it had come out in a hideous parody of itself, a strangled cry of self-pity.

"What can I do?" she asked at last.

And what *could* she do? He realized that he had not thought it through, knew that he had not thought rationally at all. He had simply reacted—he, who prided himself on his logic. And then he had to admit to himself that he wanted her tears, wanted her hand to touch his. And the knowledge that he, by his appearance, manipulated her into giving him these things humiliated him. He searched her face with a dimming vision, but whether his sight was failing from age or from emotion, he couldn't tell. Finally he said, "You can say 'goodbye.' And then you can go."

"I can't leave you now."

"I have an appointment. At the Terminal."

She shook her head as if to clear it. "I'll go with you."

"No." His voice sounded harsh to him. As he spoke, he saw the

relief spread over her face. Perversely, then, he wanted to take it back, wanted her to stay, wanted her to see what she would one day come to. It wasn't rational, he knew. And the grim idea came that maybe the logical part of him was decaying too, falling apart, unleashing once-locked demons. "No," he repeated.

"Are you sure?"

He managed to nod. He didn't hear the few soft words she left him with. He had begun to lock himself away.

By the time she had gone, shutting the door quietly behind her, the morning sun stole pinkly into his room, glinting on the emerald of the lozenges.

He had lied to her. He didn't intend to go to the Terminal. He wouldn't go. He would never go.

He rose and dressed slowly, pausing often to catch his breath, to slow the erratic racing of his heart. As he dressed, he thought of the Terminal—a drug, a bath, a meal (the last real one), another drug, and then a bed in a windowless alcove where tapes and illusions would play into what was left of his brain until in artful climax it was over.

He would never go there, because in doing that he would make a futile mockery of everything his life had been.

When he had dressed, he headed for the door. He was going out; he had no idea where. On his way he passed the communicator and absently picked up the two green lozenges and put them in his pocket. He couldn't have said why.

The November wind cut through his clothes. His feet felt numb, and the numbness began to creep upward along his shins. Thin needles of ice stabbed his knees with every halting step.

He blinked against the wind. Ahead, two doors down, the sign danced: **PANCAKE SHACK**. He came to the door and pushed against it. When it failed to open, he leaned his weight against it, panting with the effort. The door splayed open.

It was a familiar cavern—an old-fashioned place where machines had not yet entirely supplanted people. He had taken his early meal there nearly every morning for nineteen years.

He slipped into a booth, and into the refuge of old habit. Nothing was different today, was it? Nothing could be if it were the same as every other day.

The well-known menu flashed in front of him. Although he had no appetite, he touched his usual choice. The menu blinked and vanished.

He studied the tabletop as if he had never seen it before. He looked at the patina of scratches on its dark green surface and, leaning forward, examined a greasy streak that began at a dingy gouge and ended under his nose—in his reflection. He stared at it, feeling the unreality rise again. It couldn't be so. Not when he felt so much the same inside. He peeped out of himself with fading eyes and looked in wonder at the dark, distorted image of his face. It couldn't be so.

The old food cart rumbled on its programmed route and paused at his booth. Automatically, he turned and reached for the food, clutching plate, cup, and saucer in a trembling grip. Two biscuits shimmied on the plate and slid atop a shining egg onto the floor. The cup skittered in his grasp, splashing hot coffee onto the table and his lap, before it crashed to the floor. The food cart clicked and skidded on the ruins of his breakfast. Then it skewed into the booth and set off a raucous alarm, attracting the attention of the other customers, as well as the comp-cook, who pushed a swinging door open and strode toward Matt with a brisk, "What's up? What's up?"

The cook stopped in his forward path and stared at him, narrowing his eyes in disgust. Then with sudden recognition, the look changed to alarm, then pity.

A woman across the aisle said to her companion, "Jesus. Why is he here? Why do they let them come here?"

Her companion chuckled. "It's not against the law."

"I thought it was."

"You and a lot of others. He's harmless. It's not catching, you know," said the man.

She shuddered, then stared at Matt as if he were unable to comprehend her words. "Jesus. You'd think they'd keep them off the streets." She clutched her cup. "Jesus."

"Poor old wreck. Try to have a little tolerance, Cassie. He can't help it."

Matt stared at the table top. A spreading pool of coffee crept over the greasy smear, dislocating his reflection, sharpening it. The words of his defender cut deeper than the woman's. He clutched the edge of the table and stood up. It was an accident, he told himself. It could have happened to anyone. He stared at the dark stain that spread along his groin and down his legs. It was an accident. The shame burned deeper than the scalding coffee. He turned and stumbled toward the door.

He wandered for a long time through the streets. He had to stop often, leaning against the sides of buildings, clinging to signs, to

posts, until he could catch his breath. Then he walked on—walked on trembling legs that threatened to topple him at any moment onto the pavement.

He had to go to work. Late . . . Going to be late . . . And then he remembered. He hadn't done that. Not for seven years. Not since his medical report had come to the brokerage. "Time to see the world," Tomlinson had said with forced joviality. "Yes, Matt. I really envy you. Time for yourself now. Time to see the world."

He had known then that his time was shaved down to just a while. He had *known* it. In his head. But there weren't any signs of it; none that he could see, none that anybody could *see*, but only infer from lab tests on a certain strain of mice who went from their prime to tottering age within hours after the injection of his serum. He had known it, but it had never seemed real.

And he hadn't seen the world. Instead his world had narrowed to the decaying streets of New Piedmont.

He walked down Clairmont, touching the walls, the storefronts, pressing his hand against them as if he touched a cane, leaning, steadying himself. Brick, then glass. More brick. Stucco. Limestone.

He stood uncertainly at the corner. He had to get to work. No . . . that wasn't right. Why was he forgetting? He felt a dull ache grow in his head and begin to pound. Oh, God. Was it going to take away his mind? They said the changes sped up once they had begun. Geometric, didn't they say?

He stared through the haze of pain in his head. Across the street—he had to go across the street. He didn't hear the whine of the robot transport as it bore down. He heard only the screech of its brakes and its warning whistle as it narrowly avoided him. Passers-by looked on in amazement at his erratic progress across the road. "Old fool," said one. "Crazy old fool."

He found himself in Claiborne Park. He stood at one end of a long reflecting pool lined with old bare oaks. Across the water stood the brown glass towers of the Terminal.

He stared at it in amazement. He hadn't meant to come here, hadn't meant to at all.

He found a bench and sank onto it. The jolt of his spine against the seat sent bright stabs of pain into his skull. He leaned back and closed his eyes and tried to catch his breath, tried to think. The wind had died down, he thought gratefully. He felt the sun play feebly over his face. The numbness in his legs gave way to needle pricks, a thousand little points of pain. He leaned forward and ran his hands

over his calves and, as he did, the pain quickened and reached out inside his head.

A child stood looking at him—a round-eyed, drippy-nosed little boy no more than three or four.

He stared back at the child. For a full minute they looked at each other and then the boy said, "How come your face is all wadded up?"

He considered the question gravely, as if there were only one answer, as if it were of the utmost importance that he find it. Finally he said, "I think it's because I'm all used up." All used up inside. And now there was nothing left to do except to fall in upon himself like a collapsing, wrinkled balloon.

The boy blinked and then nodded.

A heavy woman pushing a cart of groceries came up the path calling, "Johnny. John-ee. You get over here." She left the cart, marched toward the boy, and captured his arm. "You don't go up to people like that. You come on."

"Why, Mommy? Why?"

"Come on." Retrieving her cart with one hand, she pushed and pulled her groceries and her child down the path until they disappeared around a bend behind a grove of rhododendron.

Brown leaves scurried across the path. The wind was picking up again, stinging his face with dry ice, robbing his body of heat. He hunched inside his coat and, thrusting his aching hands deep into his pockets, felt there the cold lumps of the two lozenges. He clutched them, feeling them click together, then slither apart.

It would be warm in the Terminal. No wind there, no wind at all. He considered this and suddenly realized that he wanted the wind, wanted to feel it bite into his face, as if it were an affirmation of his being. And then he knew that this was all part of it, part of his life, the finishing of it that made it complete like the fullness after a meal, the throbbing ebb of climax after sex, the feel of thirst slaking after cold water on a parched tongue.

He tried to stand, he tried to shout this new discovery to the world, but something caught at his legs and cut off his voice.

Astonished, he found himself pitched forward on the ground, the smell of leaves and earth in his nostrils.

He had fallen heavily. He lay on his right side. Pain stabbed through the arm pinned under him, but strangely he felt no pain at all in his left side, no throbbing in that part of his head, no stabbing needles in his leg, only a spreading numbness.

He tried to move, to roll over, but he couldn't force his body to obey. Then, slowly, he moved his right hand, pushing against the

ground until he felt it tilt away and he sprawled helplessly on his back. He tried to blink at the ebbing sun. Then his hand crept toward his pocket and stole inside.

He felt the lozenges in his hand and drew them out, bringing them unsteadily before his eyes. Dimly he caught their color in the pale light. As he did, he felt a rush of light in his head, a burning as if a thousand suns glowed there.

The memories began—shifting kaleidoscopes of self—as neurons fired in glowing novas one last time. And interspersed with these echoes, shifting glimpses of something else, something *not him*, began to play.

Somewhere in his brain a cell destructed. Then another. Lyso-somes unleashed their poisons and ten thousand cells ruptured. A single carbon atom, severed from a raveling helical strand, swirled in an ocean faintly salt and sang of itself, and of the long-muscled swimming creature in whose body it had once lived. Another atom bloomed in an ancient cave fire that flickered against a painted, shadowed wall.

A molecule released a speck of copper: *A blue-blooded crab sidled on the floor of a sandy sea.*

He felt the lozenges in his hand. He laid them on the ground next to him and, scrabbling, clawed at the ground with feeble fingers, while a single molecule of water burst from a cell and sang of a comet, sang of its headlong flight, its streaming tail.

He scrabbled at the ground, pushing aside crumbling leaves, digging a small hole. He dropped the lozenges inside and drew the cold earth over them, patting it, heaping it, pressing finger-shapes on the little mound.

Within his head a brilliant light exploded, and for a moment he felt himself walk on not-yet-human legs beside a river, felt himself bloom in an agony of struggling April leaves, felt himself move through lava bubbling from the earth.

Time slipped away as the pictures flared and played within him. Time flowed backward, whirled, then moved forward again.

A solar wind sucked up by a yellow sun . . . expansion . . . swimming . . . swimming in blackness. . .

Under strange constellations, a creature wheeled above a doomed world, sending ribbons of itself to dance in phosphorescent streamers over molten seas. As the creature pumped and spun its essence in a celebration of itself, its sun became a supernova.

The swirling clouds of the exploding star rolled, spun, condensed into a yellow sun. He felt himself drawn into its heart and then thrust

out again in a thin stream that condensed once more into a cooling planet.

He felt hands touch him then; he heard faint voices: "Poor old guy. Trying to get to the Terminal."

"We'll get you there, old fellow. Hang on."

He tried to laugh out loud. To the men who lifted him, to his own ears, it sounded like a groan, but he meant it as a laugh.

He had cheated them, cheated the Terminal and its standard, pre-packaged heaven. They were too late. He was dying—he was *not-dying*—and he was doing it all by himself.

As they carried him toward the tall, brown-glass towers, galaxies spun within the universe of him. And a pale setting sun played across the smile that tilted, lop-sided, against the ravaged landscape of his face.

GOOD NEWS

for blind and visually handicapped
readers of science fiction:

A Braille version of *Isaac Asimov's Science Fiction Magazine* is available free to the visually handicapped through the National Library Service for the Blind and Visually Handicapped. Interested persons should contact their NLS regional branch library; every state has one. If your local librarian doesn't know its location, contact the National Library Service for the Blind and Physically Handicapped, The Library of Congress, 1291 Taylor Street NW, Washington, D.C. 20542. Their telephone number is (202) 882-1969.

WATCH THIS SPACE

by Steven Edward McDonald

Mr. McDonald's novel, The Janus Syndrome, is due out soon from Bantam Books. He resides in Jamaica, West Indies.

"Philosophy," said Krueger, "is extinct, science likewise."

Krueger and Wilder strolled easily along the promenade, the salt spray sharp in the light fall breeze. The sea made quiet sounds beyond them.

"Oh?" Wilder murmured.

"I'm quite serious, Charles. Consider: we probe further and further out into the universe and deeper into old mother Earth, and as things grow more complex, *more* complexity is hinted at, causing us to push on, to investigate more deeply."

Wilder raised his chin a little and sniffed the air. A car hissed by them. "It would be rather boring if no one was curious, wouldn't it?"

"Haven't you noticed, though, how we're slowly progressing towards utter chaos?"

"Don't be daft. All quite orderly. If it can be extrapolated from known facts—"

"But the resulting data do *not* fit the theory! Never exactly, never perfectly—"

"Heisenberg—"

"Damn Heisenberg! He only allows for minor variations in minor observations. I'm thinking of the cosmic scale—what goes on within a sun, in the biosphere of a planet. Lowell saw canals on Mars, and so did others, all competent, all proved wrong. The Astronomer Royal proved it impossible to fly a rocket to the Moon; others did. Until the theory changed."

A seagull sounded at the end of a pier. Wilder looked up, to watch it circling. He said, "Ronald Knox had a limerick about observation and belief, Mark."

Krueger smiled and quoted:

"There once was a man who said, "God
must think it exceedingly odd
when he finds that this tree
continues to be
when there's no one about in the Quad." ' "

He was silent for a moment after that, watching the water beyond. "No, that isn't my point, Charles. Have you ever considered the possible results, taking into account the Heisenberg principle, of observation?"

"I rather prefer Knox, Mark. He's easier on the mind."

"Ah. Yes. Well, look, if you disrupt something, even slightly, by observation, it should have repercussions . . . ever so slightly, something is thrown out of whack, which compensates by throwing something else slightly out of whack, and so on, ad infinitum . . . a chain of disruption."

A little stuffily, Wilder said, "Checks and balances."

Krueger chuckled. "There is an eventual payoff. It has to end somewhere. For want of a nail, eh? The domino theory with dominoes increasing exponentially in size. Eventually, you reach the point where the universe itself must implode or explode—we're *always* having to modify our analysis! The neutron star theory begets the collapsar, which begets the quantum black hole, which begets Hawking's theory that particulate matter *escapes* a black hole . . . and that's a simplified chain. You might make up your own, Charles. Why not consider the social sciences? You might be surprised."

"Political theory—" Wilder trailed off, thinking. "Marx should work, in the pure form, yet . . . application . . ."

"To support itself, the system becomes ever more complex, sags under excess weight, adds more parts to support the disruptions. What emerges after the collapse of the system is a chaotic jumble of utterly useless and non-matching parts. Likewise the universe, Charles. The more we build our picture of it, the more parts we need to make it work, yet, due to observation, each part is ever so slightly disrupted . . . we have barely disguised chaos, Charles, not Einsteinian orderliness."

Krueger stopped and turned, gazing out over the dark sea. After a few moments, he walked down the steps leading from the promenade to the beach, his shoes crunching gravel and pebbles.

Behind him, Wilder said, "This is little more than philosophy."

"Of course. But even philosophy requires order. If we are plunging towards chaos, philosophy becomes valueless. Your morning observation won't match your evening observation—time will have no meaning, dissolving *that* anchor. Your definitions of nature, of man, of god, will be non-applicable."

Wilder was silent, watching Krueger, as they walked along the beach. A fine, salty drizzle was beginning. Then: "If this is so, and you're convinced that observation of the universe causes continuous

complex alterations and breakdowns, then you must also be convinced—"

"Of my ability to influence the universe as it applies to me? Of course, Charles. And—"

Krueger silenced himself. He strode down the beach.

He was a good fifty meters out on the water before he turned and waved. "Try it yourself!" he called. "It works, you know!"

Without haste, he began to climb into the sky.

FOURTH SOLUTION TO ANTIMAGIC AT THE NUMBER WALL (from page 117)

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IMPROBABLE BESTIARY: The Clone

The Clone, the Clone is never alone—
A fact that the Clone has been known to bemoan—
For research in biogenetics has shown
That Clones always come from a Cloner.
Now birds and bees (the drones and the queens)
Develop their genes by the usual means
(As Mendel has proven with peas and with beans),
But Clones get their genes from a donor.

"Good gosh!" said a Clone named Tyrone, with a groan,
As he swallowed two aspirins and picked up the phone,
"I'm giving a party next Saturday night;
I've ordered the food and libations.
But now comes the hard part: I have to invite
My nearest and dearest relations—
I've a father, a mother, two sisters, a brother;
They're all in my family tree.
And Clones by the dozens are nephews and cousins,
But all my relations are *ME!*
I was twinned from myself on a scientist's shelf
(That's a fact upon which I do pride myself)
But if he, she, and we are just copies of *me*
I'll get so mad I'll be, well, *beside* myself!"

The Clone, the Clone is easily grown:
He's partially muscle and partially bone,
And into a beaker he's frequently thrown
By some biologic mechanic.
Now birds and bees (the queens and the drones)
Make excellent subjects to turn into Clones
But *don't* waste your time making Clones out of *stones*,
For stones are so seldom organic.

And the Clone named Tyrone met a Clone name of Joan,
And they married without any fuss.
But Tyrone said: "Now maybe, if we have a baby,
He might just turn out to be *US!*"
Let me see: now if I
Take the chromosome Y
And I change it to chromosome X
(Which I cannot condone)
The result is a Clone
Who would be of the opposite sex!"

The Clone, the Clone is never alone,
But if he were flown to some faraway zone
The Clone might develop a life all his own
(And not merely copy another).
The Clone, you see, can never agree
On where he should be in his family tree;
He'll never be certain he really is *HE*
And not, for example, his brother.

MORAL: If you can't find your chromosomes,
try looking in your other set of genes.

—F. Gwynplaine MacIntyre



LIMITS

by Larry Niven

art: Jack Gaughan



Mr. Niven was born 30 April 1938 in Los Angeles CA. He flunked out of Cal Tech in his sophomore year, having discovered a book store jammed with used science-fiction magazines, but subsequently graduated from Washburn University with a BA in math and a minor in psychology. His first sale was "The Coldest Place," in 1964; his collaboration with Jerry Pournelle, Oath of Fealty, is expected soon from Pocket Books.

I never would have heard them if the sound system hadn't gone on the fritz. And if it hadn't been one of those frantically busy nights, maybe I could have done something about it. . . .

But one of the big, chirpsithra passenger-ships was due to leave Mount Forel Spaceport in two days. The chirpsithra trading empire occupies most of the Galaxy, and Sol system is nowhere near its heart. A horde of passengers had come early in fear of being marooned. The Draco Tavern was jammed.

I was fishing under the counter when the noises started. I jumped. Two voices alternated: a monotonal twittering, and a bone-vibrating sound like a tremendous door endlessly opening on rusty hinges.

The Draco Tavern used to make the Tower of Babel sound like a monolog, in the years before I got this sound system worked out. Picture it: thirty or forty creatures of a dozen species including human, all talking at once at every pitch and volume, and all of their translating widgets bellowing too! Some species, like the sri-vinthish, don't talk with sound; but they also don't notice the continual *skreeking* from their spiracles. Others sing. They *call* it singing, and they say it's a religious rite, so how can I stop them?

Selective damping is the key, and a staff of technicians to keep the system in order. I can afford it. I charge high anyway, for the variety of stuff I have to keep for anything that might wander in. But sometimes the damping system fails.

I found what I needed—a double-walled canister I'd never needed before, holding stuff I'd been calling *green kryptonite*—and delivered glowing green pebbles to four aliens in globular environment tanks. They were at four different tables, sharing conversation with four other species. I'd never seen a rosyfin before. Rippling in the murky fluid within the transparent globe, the dorsal fin was triangular, rose-colored, fragile as gossamer, and ran from nose to tail of a body that looked like a flattened slug.

Out among the tables there was near-silence, except within the bubbles of sound that surrounded each table. It wasn't a total breakdown, then. But when I went back behind the bar the noise was still there.

I tried to ignore it. I certainly wasn't going to try to fix the sound system, not with fifty-odd customers and ten distinct species demanding my attention. I set out consommé and vodka for four glig, and thimble-sized flasks of chilled fluid with an ammonia base for a dozen chrome-yellow bugs each the size of a fifth of Haig Pinch. And the dialog continued: high twittering against grating metallic bass. What got on my nerves was the way the sounds seemed always

on the verge of making sense!

Finally I just switched on the translator. It might be less irritating if I heard it in English.

I heard: "—noticed how often they speak of limits?"

"Limits? I don't understand you."

"Lightspeed limit. Theoretical strengths of metals, of crystals, of alloys. Smallest and largest masses at which an unseen body may be a neutron star. Maximum time and cost to complete a research project. Surface-to-volume relationship for maximum size of a creature of given design—"

"But every sapient race learns these things!"

"We find limits, of course. But with humans, the limits are what they seek first."

So they were talking about the natives, about us. Aliens often do. Their insights might be fascinating, but it gets boring fast. I let it buzz in my ear while I fished out another dozen flasks of ammonia mixture and set them on Gail's tray along with two Stingers. She went off to deliver them to the little yellow bugs, now parked in a horseshoe pattern on the rim of their table, talking animatedly to two human sociologists.

"It is a way of thinking," one of the voices said. "They set enormously complex limits on each other. Whole professions, called *judge* and *lawyer*, devote their lives to determining which human has violated which limit where. Another profession alters the limits arbitrarily."

"It does not sound entertaining."

"But all are forced to play the game. You must have noticed: the limits they find in the universe and the limits they set on each other bear the same name: law."

I had established that the twitterer was the one doing most of the talking. Fine. Now who were they? Two voices belonging to two radically different species . . .

"The interstellar community knows all of these limits in different forms."

"Do we know them all? Gödel's Principle sets a limit to the perfectability of mathematical systems. What species would have sought such a thing? Mine would not."

"Nor mine, I suppose. Still—"

"Humans push their limits. It is their first approach to any problem. When they learn where the limits lie, they fill in missing information until the limit breaks. When they break a limit, they look for the limit behind that."

"I wonder . . ."

I thought I had them spotted. Only one of the tables for two was occupied, by a chirpsithra and a startled-looking woman. My suspects were a cluster of three: one of the rosyfins, and two compact, squarish customers wearing garish designs on their exoskeletal shells. The shelled creatures had been smoking tobacco cigars under exhaust hoods. Now one seemed to be asleep. The other waved stubby arms as it talked.

I heard: "I have a thought. My savage ancestors used to die when they reached a certain age. When we could no longer breed, evolution was finished with us. There is a biological self-destruct built into us."

"It is the same with humans. But my own people never die unless killed. We fission. Our memories go far, far back."

"Though we differ in this, the result is the same. At some point in the dim past we learned that we could postpone our deaths. We never developed a civilization until individuals could live long enough to attain wisdom. The fundamental limit was lifted from our shells before we set out to expand into the world, and then the universe. Is this not true with most of the space-traveling peoples? The Pfarth species choose death only when they grow bored. Chirpsithra were long-lived before they reached the stars, and the gligstith[click]optok went even further, with their fascination with heredity-tailoring—"

"Does it surprise you, that intelligent beings strive to extend their lives?"

"Surprise? No. But humans still face a limit on their lifespans. The death limit has immense influence on their poetry. They may think differently from the rest of us in other ways. They may find truths we would not even seek."

An untranslated metal-on-metal scraping. Laughter? "You speculate irresponsibly. Has their unique approach taught them anything we know not?"

"How can I know? I have only been on this world three local years. Their libraries are large, their retrieval systems poor. But there is Gödel's Principle; and Heisenberg's Uncertainty Principle is a limit to what one can discover at the quantum level."

Pause. "We must see if another species has duplicated that one. Meanwhile, perhaps I should speak to another visitor."

"Incomprehension. Query?"

"Do you remember that I spoke of a certain glickstith[click]optok merchant?"

"I remember."

"You know their skill with water-world biology. This one comes to Earth with a technique for maintaining and restoring the early-maturity state in humans. The treatment is complex; but with enough customers the cost would drop, or so the merchant says. I must persuade it not to make the offer."

"Affirmative! Removing the death-limit would drastically affect human psychology!"

One of the shelled beings was getting up. The voices chopped off as I rounded the bar and headed for my chosen table, with no clear idea what I would say. I stepped into the bubble of sound around two shelled beings and a rosyfin, and said, "Forgive the interruption, sapients—"

"You have joined a wake," said the tank's translator widget.

The shelled being said, "My mate had chosen death. He wanted one last smoke in company." It bent and lifted its dead companion in its arms and headed for the door.

The rosyfin was leaving too, rolling his spherical fishbowl toward the door. I realised that its own voice hadn't penetrated the murky fluid around it. No chittering, no bone-shivering bass. I had the wrong table.

I looked around, and there were still no other candidates. Yet *somebody* here had casually condemned mankind—me!—to age and die.

Now what? I might have been hearing several voices. They all sound alike coming from a new species; and some aliens never interrupt each other.

The little yellow bugs? But they were with humans.

Shells? My voices had mentioned shells . . . but too many aliens have exoskeletons. Okay, a chirpsithra would have spoken by now; they're garrulous. Scratch any table that includes a chirp. Or a rosyfin. Or those srivinthish: I'd have heard the *skreek* of their breathing. Or the huge grey being who seemed to be singing. That left . . . half a dozen tables, and I couldn't interrupt that many.

Could they have left while I was distracted?

I hot-footed it back to the bar, and listened, and heard nothing. And my spinning brain could find only limits.

THE SF CONVENTIONAL CALENDAR

by Erwin S. Strauss

You may have missed the WorldCon this year, but that doesn't mean you have to wait to enjoy a social weekend with your favorite SF authors, editors, artists and fellow fans. Contact a con(vention) in your area soon. For a longer, later list, an explanation of cons, and a sample of SF folksongs, send me an addressed, stamped envelope at 9850 Fairfax Sq. #232, Fairfax VA 22031. The hotline is (703) 273-6111. If a machine answers, leave your area code and number and I'll call back at my expense. Look for me at cons behind the Filthy Pierre badge.

Denvention II. For info, write: Box 11545, Denver CO 80211. Or phone: (303) 433-9774 (10 am to 10 pm only, not collect). Con will be held in: Denver CO (if city omitted, same as in address) on: 3-7 Sep., 1981. Guests will include: C. L. Moore, Clifford Simak, Rusty Hevelin, Ed Bryant. This is it; WorldCon 1981. Join at the door (Denver Hilton) for \$55.

EarthCon, c/o Gloger, Box 22041, Beachwood OH 44122. Cleveland OH, 18-20 Sep. Lichtenberg. TriCitiCon, Box 2000 SUNY, Binghamton NY 13901. 18-20 Sep. Zebrowski, Freff, P. Sargent.

CoCon, Box 400, Bronx NY 10471. Danbury CT, 25-27 Sep. Hal ("Mission of Gravity") Clement, Alfred ("Demolished Man") Bester, F. Gwynplaine MacIntyre. Jacuzzi parties. A relaxacon.

BabelCon, c/o Harrison, 1355 Cornell SE, Grand Rapids MI 49506. 25-27 Sep. Costume call.

ImagiCon, c/o Collins, 1257 N. Parkway #3, Memphis TN 38104. 25-27 Sep. Andrew J. Offutt, Arthur Hlavaty. "Semi-relaxacon." After WorldCon, everybody just wants to take it easy.

MosCon, Box 9141, Moscow ID 83843. 25-27 Sep. Kate Wilhelm, Tim Kirk, Damon Knight, Suzie Tompkins. The first 150 members will get a Tim Kirk print. The third annual con here.

URCon, Box 6647, Rochester NY 14627. 25-27 Sep. I*S*A*A*C A*S*I*M*O*V (Fri. only), L. S. and C. C. deCamp, Mike ("Animato") Jittlov. The Univ. of Rochester's third annual con.

GalactiCon, Box 491, Daytona Beach FL 32015. 25-27 Sep. Joe & Gay Haldeman, Rusty Hevelin.

ConClave, c/o Waldo and Magic Inc., Box 444, Ypsilanti MI 48197. Detroit MI, 2-4 Oct.

RoVaCon, Box 117, Salem VA 24153. (703) 389-9400. Roanoke VA, 2-4 Oct. Algis Budrys, Alice Sheldon ("James Tiptree Jr."), Freas, Dellinger, Broderick, Ralph Roberts, the Prestons.

NonCon, Box 475, Sta. G., Calgary, Alta., Canada. 9-11 Oct. Larry Niven, Orson Scott Card.

StarCon, Box 3096, Lubbock TX 79452. (806) 747-0669. 9-11 Oct. Robert ("Bug Wars") Asprin. TallyCon, 121 S. Monroe, Tallahassee FL 32301. (904) 224-0633. 9-11 Oct. Freas, Wendy ("Elfquest") Pini, Joe & Jack Haldeman, C. J. Cherryh, Ben Bova, W. A. ("Bob") Tucker.

BoucherCon, 2009 S. 93rd, W. Allis WI 53227. Milwaukee WI, 9-11 Oct. The mystery fan's WorldCon, named after mystery/SF writer Anthony Boucher. Not SF, but overlaps SF fandom.

Worlds Beyond, Box 4042, Falls Church VA 22044. Near Washington DC, 9-12 Oct. Sucharitkul, Hal Clement, Dave Bischoff, R. Rogow, Bob Lovell, A. D. Foster, S. Stiles, Mike Jittlov.

RockCon, Box 9911, Little Rock AR 72219. 16-18 Oct. Fred ("Berserker") Saberhagen, Asprin.

World Fantasy Con, c/o Dark Carnival Books, 2812 Telegraph Ave., Berkeley CA 94705. (415) 845-7757. 30 Oct.-1 Nov., 1981. The big Halloween con for fans of fantasy and horror.

ChiCon IV, Box A3120, Chicago IL 60690. 2-6 Sep., 1982. A. Bertram (Rim Worlds) Chandler, Kelly Freas, Lee Hoffman. The 1982 WorldCon. Go to other cons to prepare for WorldCons.



A black and white illustration of a tropical scene. In the upper right, a palm frond reaches across the frame. In the lower left, another palm frond is visible. A bird, possibly a frigatebird, is perched on a branch in the upper right. The background is a light, textured wash.

art: Val Lakey

LIRIOS:

A Tale of the Quintana Roo

by James Tiptree, Jr.

The author, a retired experimental psychologist, resides in Virginia, and at last count has won four Nebula awards and three Hugo awards.

*The tourists throw spent Polaroid
Where Spaniards threw spent slaves:
And now and then a tourist joins
Four thousand years of graves;
For loves it's wiser to avoid
Smiles from those brilliant waves.*

The old coco-ranch foreman saw him first.

It was a day of roaring hot south wind. The beach smoked under the thrashing coco-palms, and the Caribbean raved by like a billion white devils headed for Cuba, four hundred miles north. When I went down to see what *Don Pa'o Camool* was peering at, I could barely hold one eye open against the glaring, flying sand.

The beach stretched empty to the hazed horizon: dazzling white coral marked only by faint hieroglyphs of tar and wrack.

"¿Qué?" I howled above the wind-shriek.

"*Caminante.*"

Interested, I peered harder. I'd heard of the *caminantes*, the Walking Men of old days, who passed their lives drifting up and down this long, wild shore. One of the dark streaks was, perhaps, moving.

"¿*Maya caminante?*"

The old man—he was a decade younger than I—spat down hard at a ghost-crab blowing by. "*Gringo.*" He took a hard sideways squint up at me, as he always did when he used that word.

Then he screwed his face into one of his wilder Maya grimaces, which might mean anything or nothing, and stumped back up the bluff to his lunch, slapping his big old-fashioned *machete* as he went.

My eyes were caked with salt and sand. I too retired up to my wind-eroded patio to wait.

What finally came plodding into view along the tide-line was a black skeleton, a stick-figure with fuzz blowing around the head. When he halted by the compass-palm and turned to look up at the *rancho* I half-expected the sea-glare to shine through his ribs.

The *rancho* was a straggling line of five small pole-and-thatch huts, three smoky copra-drying racks, and a well with a winch-bucket. At the end was a two-room owner's *casita*, on whose rented

patio I sat.

The apparition started straight up toward me.

Nearer, I saw he was indeed a *gringo*: the hair and beard whipping his sun-blackened face was a crusted pinkish grey. His emaciated body was charred black, with a few white scar-lines on his legs, and he was naked save for a pair of frayed shorts and his heavy leather sandals. A meagre roll of *serape* and a canteen were slung on his shoulders. He could have been sixty or thirty.

"Can I have some water, please?"

The English came out a bit rusty, but it was the voice that startled me: —a clear young voice right out of Midwest suburbia.

"Of course."

The sun glittered on a shark-knife hanging from the stranger's belt, showing its well-honed edge. I gestured to a shady spot on the patio curb and saw him slumped down where I could keep an eye on him before I went in. Incongruous young voices like his aren't unknown even here; they come from the scraps of human flotsam that drifts down the tropic latitudes hoping that tomorrow, or next year, they will get their heads in order. Some are heart-breaking; a few are dangerous, while they last. I knew that slant eyes were watching from the *rancho*—but no one could see into the *casa* and only a fool would rely on a Maya to protect one old *gringo* from another.

But when I came out he was sitting where I'd left him, gazing out at the blazing mill-race of the sea.

"Thank you . . . very much."

He took one slow, shaky sip, and then two more, and sat up straighter. Then he uncapped his canteen, rinsed, and filled it carefully from my pitcher before drinking more. The rinse-water he poured on my struggling casuarina seedling. I saw that the canteen under its cooler-rag was a sturdy anodised Sealite. The knife was a first-rate old Puma. His worn sandals were in repair, too; and wearing them was a mark both of status and sense. When he lifted the glass again, the eyes that glanced at me out of his sun-ravaged face shone a steady, clear, light hazel.

I picked up my own mug of cold tea and leaned back.

"*Buut ka'an*," the young stranger said, giving it the Maya click. "The Stuffer." He jerked his wild beard at the brilliant gale around us, and explained, between slow sips, "They call it that . . . because it blows until it stuffs the north full, see . . . and then it all comes blasting back in a Northeaster."

A scrap of my typing paper from the local dump came flittering

by. He slapped a sandal on it, smoothed it, and folded it into his pack. As he moved, a nearby palm-root suddenly reared up and became a big iguana. The creature stared at us over its wattles with the pompous wariness which had carried it from the Jurassic, gave two ludicrous intention-bobs, and streaked off at a flying waddle, tail high.

We both grinned.

"More water?"

"Please. You have good water here." He stated it as a known fact, which it was.

"Where did you fill your canteen?"

"Pajaros. *Punta Pajaros*. Ffah!"

I refilled the pitcher, more than a little appalled. Allground-water quits at the lagoon-mouth a kilometer south. Even considering that he was walking north, with the wind, had this man, or boy, really come the thirty miles of burning, bone-dry sand-bar between here and the Pajaros lighthouse on that canteen? Moreover, Pajaros itself has no water; the fishermen who camp there occasionally bring in an oil-drum full, but were otherwise believed to subsist on beer, tequila, and other liquids not usually considered potable. No wonder he had rinsed the canteen, I thought, hunting out my pack of sodium-K tabs. Even without the Stuffer blowing, people can desiccate to congestive heart-failure without feeling it, on this windy shore.

But he refused them, rather absently, still staring at the sea.

"All the electrolyte you need, right there. If you're careful. Our blood is really modified sea-water . . . isn't that right?"

He roused and turned round to look at me directly, almost appraisingly. I saw his gaze take in the corner of the room behind us, where my driftwood bookshelves were dimly visible through the glass sliding doors that had long ceased to slide. He nodded. "I heard you had a lot of books. *Muy pesados*—heavy books. *Libros sicologicos*. Right?"

"Um."

This chance visitation was changing character unwelcomely. It wasn't odd that he should have known much about me—gossip has flowed ceaselessly up and down this coast for three thousand years. Now I had the impression that something about those "heavy psychological books" had drawn him here, and it made me uneasy. Like many experimental psychologists, I have had harrowing difficulties trying to explain to some distressed stranger that an extensive knowledge of, say, the cognitive behavior of rats, has no clinical applications.

But his own radar was in excellent shape. He was already wrapping his canteen and slinging on his roll.

"Look, I don't mean to interrupt you. The breeze is easing off. It'll be nice later on. If you don't mind, I'll just go down by that big driftlog there and rest awhile before I move on. Thanks for the water."

The "breeze" was doing a roaring 30 knots, and the huge mahogany timber down on the beach could hardly be seen for flying sand. If this was a ploy, it was ridiculous.

"No. You're not interrupting anything. If you want to wait, stay here in the shade."

"I've snoozed by that log before." He grinned down at me from his skeletal height. His tone wasn't brash, just gentle and resolute; and his teeth were very white and clean.

"At least let me pass you a couple of spare grapefruit; I've more than I can eat."

"Oh, well, great. . . ."

Looking back, it's hard to say when and why it began to seem important that he stop and not go on. Certainly my sense of him had changed radically about that time. I now saw him as competent to this country, and to his strange life, whatever it might be; doubtless more competent than I. Not flotsam. And not in need of any ordinary help. But as time went on, something—maybe a projection of my own, maybe the unrelenting wind-scream that day—perhaps merely the oddness of the sea-light reflected in his pale eyes—made me sense him as being, well, *marked*. Not at all "doomed"—which isn't uncommon in this land, particularly if one neglects to contribute to the proper officials. And not "scarred" as by some trauma. Or watched by an enemy. I had merely an unquieting sense that my visitor was at this time in some special relation to a force obscure and powerful, that he was significantly vulnerable to—I knew not what, only that it waited ahead of him, along the lonely sand.

But his talk, at first, couldn't have been less ominous. Stowing the wizened grapefruit, he told me that he came down every year to walk this coast. "Sometimes I get as far as Bélizé, before I have to start back. You weren't here when I passed going south."

"So you're on your way home now. Did you make Bélizé?"

"No. The business went on too late." He jerked his beard in the general direction of Yankeedom.

"May I ask what the business is?"

He grinned, a whimsical black skeleton. "I design swimming pools in Des Moines. My partner does most of the installation, but he

needs my designs for the custom jobs. We started in college, five years back. It really took off; it got so heavy I had to get away. So I found this place."

I poured myself some more stale tea to let that sink in. Would my scrap of paper end as a sketch for some good citizen's Iowa patio?

"Do you ever run into any of the old *caminantes*?"

"Only a few left, old men now. Hidden Star Smith—Estrella Escondida Camal. Camol, Camool, it's like Smith here, you know. He stays pretty close to Pajaros these days. And Don't Point at Rainbows."

"I beg your pardon?"

"Another old *caminante*, I don't know his name. We were watching this storm pass at sunset, see? Maybe you've noticed—they can throw this fantastic double, triple *arc iris*. Rainbows. First one I'd seen. I pointed at it and he got excited and clouted my arm down." He rubbed his elbow reminiscently. "He doesn't speak much Spanish, but he got it to me that something bad would jump out of the rainbow and run down my arm right into my ear. So whenever I meet him I tell him '*No puncto*,' and we have a laugh."

My visitor seemed to be enjoying talking to someone who knew a little of this shore, as his Des Moines clients would not. But his gaze still roved to the gale-torn sea, and he had not unslung his blanket-roll.

"How do you get across those two monster bays between here and Bélizé? Surely you can't hike around? Or have they finally cut back there too?"

"Not yet. No way. What isn't under water is tribal treaty land. I saw an air photo with three unnamed villages on it. I know where a couple of *sac bés* come out though—you know, the old Maya roads. They're nothing but limestone ridges now. There was this man on one of them one night, he wasn't wearing pants. He disappeared like—whht! . . . I wanted to walk back in a ways this trip, but—" His gaze turned away again, he frowned at the wind. "I hated to get so far . . . inland."

"So, how do you cross?"

"Oh, I work my way on a fishing boat, fixing stuff. It's unreal, what this climate does to engines. They keep them going on string and beer. I have a couple of guys who watch for me every year. If I could only leave a set of tools, but—"

We both knew the answer to that one.

"Sometimes they take me all the way, or they drop me at Punta Rosa and I walk down and catch another ride over Espiritu Sanctu."

I asked him about the rather mysterious stretch of coast between the two huge bays.

"The beach is mostly rocks; you have to watch the tide. But there's an old jeep track up on the bluff. Five, no, let's see—six coco plantings. And the Pickle Palace, you know about that?"

"You mean it really exists?"

"Oh yes. This incredible *rico-rico* politico from Mexico. The pickles were just a sideline. I guess he wanted a private paradise. Turrets, stained glass windows, at least a dozen guest-houses, everything tiled. An airstrip. And every damn bit brought in by lighter, through the reef. They say he went down a couple of times but his mistresses didn't like it. Of course it's all overgrown now. There's an old caretaker who chops it out and grows corn by the fountain. The thing is, the whole place is in exquisite taste. I mean really lovely. Nineteen-thirties art deco, top grade."

The incongruous words from this wild naked stranger—like the Pickle Palace itself—were eroding my sense of reality. This is not unusual in the Quintana Roo.

"And nobody seems to have looted the inside. I went in the kitchens, he had what has to be the first microwave oven in the world. Didn't stay long—there was a live tiger asleep in the living-room."

"You mean a jaguar?"

"No. A real tiger-tiger from India, with stripes. And huge. He must have had a zoo, see—there's birds that don't belong here, too. This tiger was on a white velvet couch, fast asleep on his back with his paws crossed on his chest, the most beautiful sight I ever saw. . . ." He blinked and then added quietly, "Almost."

"What happened?"

"He woke up and took off right over my head out the door." My guest grinned up, as if still seeing the great beast sail over. "Of course I was down, crawling like a madman out the other way. I never told anybody. But when I came by a couple years later there was his skull speared up on the wall. Pity."

"That's a lovely story."

"It's true."

His tone made me say quickly, "I know it is. That's why it's good; made-up yarns don't count. . . . Look, this wind isn't going to quit soon. Maybe you'd like to come in and wash up or whatever while I scare us up a snack. Tea suit you, or would a coke or some *cerveza* go better?"

"That's really good of you. Tea's fine."

As he followed me in he caught sight of his reflection in the sandy

glass, and gave a whistle. Then I heard a clank: he had quickly unstrapped the knife and laid it down inside the sill.

"You really are *bueno gentes*, you know?"

I pointed out the old gravity-feed shower. "Don't get too clean, it'll draw the *chiquistas*."

He laughed—the first carefree young sound I'd heard from him—and started turning out his pockets, clearly intending to walk straight under, shorts and all.

I put the kettle on my gas one-burner and started loading a tray with cheeses and ham. He came out just as I was pouring, and I nearly dropped the kettle on us both.

His skin was still burnt black, showing several more scars where he had apparently tangled with a coral-reef. The wet shorts were still basically khaki, but now visibly enlivened by sturdy Mexican floral-print patches, and edged top and bottom by pink lines of less-burnt skin. The effect was literally and figuratively topped off by his damp, slicked-down hair and beard: relieved of its crust, it shone and flamed bright strawberry red, such as I've seldom seen in nature—or anywhere else.

He seemed totally unconscious of the change in his appearance, and was looking carefully around the kitchen corner and my wall of books.

"You like stories?" he inquired.

"Yes."

"For a taste of that real maple syrup up there I'll swap you a good one. I mean, true. I want to ask you a question about it."

I was too occupied reassembling the tray and my perceptions to indulge in any more suspicions, and answered simply, "With pleasure."

He watched appreciatively as I poured a generous dollop into a baggie and secured it in a sea-scoured *detergente* jar. "You scrounge the beach, too. . . ."

"My *supermercado*," I told him.

"That's right." His gravity was returning. "Everything you need . . . it sends."

When we'd got ourselves settled I saw that the Stuffer really was subsiding slightly. The coco-palms swept the sand in a wind which had lost a decibel or two; and the sea beyond was regaining some of its wondrous Carib turquoise, shot with piercing lime-green in the coral shallows. The white lemmings of the bay raced northward still; but the far reef was now visible as a great seething tumbling snow-bank, lit with the diamonds of the afternoon sun. It might be

a nice night.

"It began right out there by your north point, as a matter of fact," my guest pointed left with his piece of cheese, and took a small bite. "This particular evening was fantastic—dead calm, full moon. You could see colors. It was like looking at a sunny day through a dark cloth, if you know what I mean."

I nodded; it was a perfect description.

"I was going along, watching the sea like I always do. You know there's an old pass through the reef out there? You can't see it now." He peered out to our left, absently laying down the cheese. "Well, yes, you can if you know. Anyway, that's where I noticed this pole sticking up. I mean, first I saw it, and then I didn't, and then it bobbed up again, shining in the moonlight. I figured some idiot had tried to stick a channel-marker there. And then I saw it was loose, and wobbling along in the current. I guess you know there's about a three-knot current to the north all along here."

"I do. But look, eat first, story later. That cheese will die of old age."

I passed him some ham on a tortilla. He thanked me, took one big bite and laid it on his knee, his eyes still frowning at the reef, as though to recapture every detail.

"I slowed down to keep pace with it. Every big swell would wash it in closer. It kept almost disappearing, and then it'd come up again, bigger than before. For awhile I thought it might be some huge fluorescent tube—you know how they come in, waving—but when it got inside the reef I saw no bulb could possibly be that big, and it had some sort of—something—on it. By this time it was free of the reef, and going along north at a pretty good clip. Just this big pole in the sea, swaying vertically along getting shorter and taller—maybe two metres at times. I stayed with it, puzzled as hell. By this time I figured it might be the spar of some buoy, maybe dragging a chain that kept it upright."

He broke off and said in a different tone, "That lad in the blue hat. He your boy?"

I peered. A familiar battered bright-blue captain's hat was disappearing over the dune beside the *rancho*.

"That's Ek. Our local *niño*." I tapped my temple in the universal gesture that means here, child of God. "He's somebody's wife's sister's son by somebody's cousin. Sort of a self-appointed guard."

"He chased me off your well with a *machete* when I came by last year."

"I think he's harmless really. But strong."

"Yeah . . . Well, anyway, this thing, whatever it was, had me sort of fascinated. When it got hung up I'd sit down and wait until it went on again. I wanted it, see. If it was an instrumented buoy maybe there'd be valuable stuff on it. I've heard of people getting return rewards—Aaah, no. That's just what I told myself. The truth is, I just *wanted* it. I had a feeling—maybe this sounds crazy—like it was meant for me. I don't tell this well. You know, something coming in from the sea all by itself, and you're all alone—"

"I know exactly what you mean. This tea-tray came in like that. I spent half a morning getting it, in a Noreaster."

He nodded his amazing-colored head and gently touched the fine wood of the tray, as if I had passed some test.

"Yeah. Anything you need . . . Well, by this time what tide there was was going out, and I saw that the thing wasn't coming any closer for awhile. But we were about half-way to that point where there's a back-flow. What they call a point around here is about as flat as your hand, but this one really does shift the current. About ten miles down. Some crazy Yank tried to build a resort there. *Lirios*."

"Yes. The Lilies. I came here the year the government had chased him out. Misuse of agricultural land, they called it. He seems to have left owing everybody. I imagine they cleaned him out pretty well first; he had great plans. Is anything left?"

"Just some foundations with nice tiling, and part of a construction trailer. Fellow called Pedro Angel from Tres Cenotes has his family there; he runs a one-bottle *cantina*. Among other things. The *poso* is still fairly good. I was going to get my water there if you weren't here."

I shook my head, thinking of those extra miles. "Ek shouldn't have done that to you. I'll talk to Don Pa'o."

He glanced at me, Maya-wise. "Don't bother. I mean, it won't help. Thanks anyway. Look—are you sure you want to hear all this?"

"Very sure. But I wish you'd put that ham out of its misery; you've picked it up six times. Is there anything you'd rather eat?"

"Oh no, this is great." Obediently, he took two small bites and drank some tea, looking for the moment like a much younger man, a boy. His eyes were still on the calming reef, where even I could now see the zig-zag of darker water that was the old pass. The tide was running out. A solitary cloud cast a rosy reflection on the glittering horizon, and the palms were quieting. It would be a beautiful night indeed—with, I now recalled, a fine full moon. I had long since planned to bed my visitor down on a hammock in my "study." Maya

hospitality is no problem; every corner has its hammock-hooks, and most commercial travellers even carry their own nets.

"Anyway, there I was, with this thing making long, slow bounces, getting taller and shorter, and me following right along. This beach in the moonlight . . ." His voice softened; the face in its flaming frame was still a boy's—but shadowed now by deeper feeling.

"The moon had started down inshore, so that it really lit up the pole, and just about the time we got to Lirios I saw that the markings were something wrapped around it. When it came up high I could see sort of white bulges, and then some dark stuff started to drift loose and blow. At first I thought it was seaweed, and then I decided it was an old flag. And I hadn't seen it before because the chain, or whatever was weighting it, held it down in deep water. But now it was dragging on the shallows, riding much higher out. And then it stuck on the Lirios sandbar; and I saw it was a long thin bundle, wrapped or tied on the pole. It stuck there until a swell turned it around and carried it right toward me.

"And I saw the face."

His own face had turned seaward now, so that I had to lean toward him to catch the blowing words.

"It was a person, see, or a—a body. Tied to that spar, with long black hair floating and a sort of white dress flapping out between the ropes, starting to dry whenever it stayed out of the sea. . . . The person had to be dead, of course. But I didn't stop to think much, after I saw the face. . . . It . . . the . . ." He swallowed. "Anyway, there's a rotten back-flow there. Even if they say there's no such thing as an undertow, it feels like one. A sea-puss. I was wading and stumbling out, see. It's steep, and rough gravel. Not like here. But I swim a lot."

I repressed a protest. The Yank who built Lirios lost four customers before he would believe the locals: the surf there is no place to swim, even on the calmest days.

"The first wave that lifted me up, I saw the thing wasn't a buoy at all; there was more stuff surfacing beside the spar. Next time I got a look, I saw gunwales, and the top of a cabin astern. A fancy long-boat, see, maybe eight or ten metres. And polished—I could see the moon on wood and brass. The—the person was tied on the broken-off mast."

He took another mouthful of cold tea, his eyes on an inner vision. He seemed to be making an effort to recount this very carefully and undramatically.

"Polished . . ." He nodded to himself, yes. "Wet wood might look

shiny, but not those oarlock things. Hell, I *felt* it, too! I'd got there, see, not even thinking. I mean, I'd never touched any dead people. Not really *dead*-dead. Just my grandfather's funeral, and his casket had glass. This was a lot different. I thought about what really dead fish were like, and I almost turned back. And then the next wave showed me the face close, and the eyes—her eyes were open. By then I was sure it was a woman. Her eyes seemed to be looking right at me in the bright moonlight. Shining—not dead. So huge . . . and her arm moved, or floated, like it was pulling at the ropes. So I kept on."

His hand instinctively moved to touch the knife he'd laid beside him.

"My leg hit something on the side of the boat beside her—that's where I got that one." He indicated a long grey scar. "And I started cutting ropes, all in among this silky stuff. The boat rolled as under water. I remember thinking, 'Oh God, I'm cutting into dead meat; maybe she'll come all apart.' And the boat rolled worse; it was hung up on its keel, trying to go turtle." He drew a long breath. "But then her arm hit me and it felt firm. So I got a good grip on it and took another lungful of air, and cut the footropes way down under, and kicked us both out of there just before the whole thing rolled." He sucked in another lungful, remembering.

"After that it was just a battle. All that damn silk, and I can still see the moon going round and round through it; and I couldn't get any decent air at all, until a lucky wave rolled us up on that sliding gravel stuff. It isn't like here. I knew I had to get us farther up fast before the backwash. I caught one good look at this face, with the dark hair streaming over it. Her eyes were closed then. I sort of passed out for a minute; but I couldn't quite, because I knew I had to do something about the water in her. But all I could do was grab her waist—it was tiny, I could almost touch both hands around and kind of jolt her face-down as I crawled up the shingle on my knees. A gush of water came out. And then we both fell into the trash-line, and there was my canteen. So I managed to pour some fresh water more or less at her mouth through the hair, and I thought her eyes were opening again just as I passed out for good. . . . Funny," he added in a different tone, and frowned.

"What?" I was frowning too, wondering how strong those skeleton tendons could be. A formidable feat, if true. But he was not, after all, much thinner than Cousteau, and a lot younger. And the Quintana Roo is peopled with survivors of harrowing ordeals.

"The trash-line was different," he said slowly. "No *basura*, no

kipple at all—just a little natural tar, and weed and sea-fans, you know. I can see it." He screwed up his eyes, remembering hard for a moment.

"Anyway," he went on, "I was out cold, I don't know how long. The next thing I remember is hearing that voice." His lips twitched in a dreamy grin.

"It was a perfectly beautiful voice, soft and rough-low—contralto, d'you call it?—going on and on. I just lay still awhile, listening. She was standing up somewhere behind my head. This incredible emotion! And complicated too. Controlled. I couldn't make out the language, although I heard '*Dios*' a few times. And then I caught the lisp: *ththth*. *Thetheo*, what they call Castilian. I'd heard it once on a tape, but never like this. At first I thought she was thanking God for saving her." His grin flickered again.

"She was cursing. Swearing. Not like a *puta*, no simple stuff, but this long-cadence, complex, hissing fury. So intense—I tell you it was so savage it could scorch you if you didn't know a word. Among everything else, she was letting God know what she thought of him, too.

"You know they say down here the Spanish is five hundred words, and four hundred are curses. She used up the ones I knew in a minute or so and went on from there. I began to understand better—a lot about *oro*, *poso dorado*, fountain of gold; and about her crew. She was pacing then, every so often I could hear her stamp. I pieced together that they'd found something, gold or treasure maybe—and her crew had deserted and left her tied on the boat. Or maybe they'd hit a rock in a storm—it was all pretty confusing. There was a lot about fighting, very violent. Maybe she'd tied herself on when she was alone in the storm. It sounded unreal, but real, too—I mean, I'd cut those ropes. And now she was asking—no, she was *telling* God exactly how to punish everybody. I think she was partly talking to the Devil, too. All in the most graphic detail, you couldn't imagine—talk about bloody-minded—"

His lips still smiled, but his eyes were wide and sober, staring north up the beach.

"I lay listening to her, and picturing her in my mind. Like a woman out of Goya, you know?—Someone I'd never believed existed. Then I got my eyes open—it was bright, blazing moonlight, everything glittered—and I rolled over to see. Oh, God.

"I was looking up straight into this beautiful furious face—big black eyes actually flashing; scornful, utterly sensuous curled lips and nostrils—talk about aristocratic. She'd pulled her hair back and

tied it. But then I saw the rest of her. It was all wrong. My woman was gone. The person was a man."

He shook his head slowly from side to side, eyes closed as if to shut out some intolerable sight, and went on in a flat, controlled tone.

"Yeah. He was younger than me, no beard. What I'd thought was a dress was this great white silk shirt, he was stuffing it back in his pants while he cursed and paced. Shiny tight black britches, with this horrible great fly, cod-piece, whatever, right in my face. He had loose soft black boots, with heels, and tiny feet. Ah, Christ, if I had the strength I'd have dragged him right back into the Caribbean and left him on that boat, I wanted my woman back so bad. . . .

"Then he noticed I was awake. His only response was to wind up one terrifying curse, and say '*Vino*' at me. Not Hello or what—just '*Vino*,' without hardly looking at me. Like I was some kind of a wine-machine. And paced off again. When he turned back and saw I hadn't moved he glanced at me sharper and repeated '*Vino*!' quite loud. I still wasn't moving. So he came a step nearer and said, '*Entonces. Agua.*'

"I just stared up at him. So he snapped his fingers, like he was talking to a dog or an idiot, and said very clearly, '*A-gua! Agua para tomar.*'

"You never saw arrogance like that. To get his point over, he flipped the empty canteen over in the sand toward me with the toe of his boot. That really pissed me off, getting sand on the screw-threads. I had him figured for some zillionaire general's spoiled brat, playing games. I started getting up, not really sure whether I was going to murder him or just walk away. But I found I was so weak that standing up was about it for me then. So I remembered this thing a lady had put me down with, and wrestled it into my best Spanish.

"The word you're groping for, man, is thank you."

"It must have sounded like some weird dialect to him, but he got the point of that '*hombre*.' Oh, wow! Did you actually ever see anyone's nostrils flare with rage? And the mad eyes—you wouldn't believe. His right hand whipped around and hit a scabbard I hadn't noticed—lucky for me it was empty. I could see the gold jewel-work on it glitter in the moonlight. That gave him a minute to look me over hard.

"I guess I puzzled him a little, when he came to look. I was a lot huskier then, too, and my gear was in better shape. Anyway, he stayed real still in a sort of cat-crouch, and said abruptly, '*Ingles.*'

"'No,' I told him. *'Estados Unidos del Norteamerica.'*

"He just shrugged, but the edge was off his rage. He repeated more calmly, extra-clear, 'I desire more water. Water to drink.'

"I was still mad enough to say, 'More water—*please*.'

"Man, that nearly sent him off again; but he was still studying me. I was bigger than him, see, and he didn't know I was about to fall down if he pushed. I saw his eyes flicking from my hair to my knife to this big flashy diver's watch I wore. By luck the thing did one of its beeps just then, and his fantastic eyebrows curled up and met, in the moonlight. Next second he gave a chuckle that'd curl your hair, and suddenly bent and swept me an elaborate bow, rattling off the most flowery sarcastic speech you ever heard—I could only get parts, like 'Your most gracious excellency, lord of the exalted land of hell-haired lunatics,' and so on, ending with a rococo request for water. The word 'please' was of course nowhere in it. No way.

"Would you believe, I started to like the little son-of-a-bitch?"

My visitor turned to look straight at me for a moment. The blaze of the calming sea behind him made a curly fire of that beard and hair, and there was a different look in his hazel eyes. I recognised it. It's the look you see in the eyes of men from Crooked Tree, Montana, or Tulsa, or Duluth, when you meet them sailing the Tasman sea, or scrambling up some nameless mountain at the world's end. The dream—faintly self-mocking, deadly serious dream of the world. *Farther, it says. Somewhere farther on is a place beyond all you know, and I shall find it.* It had carried this boy from Iowa to the wild shore of Yucatán, and it would carry him farther if he could find the way.

"—maybe it was just his *macho*," my visitor was saying. "I mean, the little bastard had to be half-dead. And his crazy get-up, and the *poso dorado* business. For some reason I figured he might be from Peru; there's some pretty exotic super-rich types down there. But it was more than that. More like he'd found a key to some life way out, free—something neat. I mean really far off, far away, *lejos* . . ."

His own voice had become far-off too, and his eyes had gone back to the sea. Then he blinked a couple of times and went on in his normal tone.

"He misunderstood my standing there, I guess. 'I will pay you,' he told me. *'Pagare. Gift. Te regalera. ¡Mira!'*

And before I could find words he had reached down and slapped one boot-heel, and his hand came up with this wicked little three-inch stiletto on his thumb. His other hand was yanking up his shirt.

The next thing, he was sticking this blade right in by his lowest rib.

" 'Hey, man—No!' I sort of lurched to get his arm, but then I saw he was just slicing skin. Two big gouts came welling out. They fell on the sand, with only a little blood—and they rolled! One of them flashed deep green in the moonlight, deep green like the sea. He picked them up, with that thumb-sticker pointed straight at me, and looked them over critically. The green one he dropped into his boot somewhere, and the other one he held out to me. It was dark, about as big as a small marble, lying on this slender, pointy-fingered hand.

" 'A token of my estimation for your timely assistance.'

"When I didn't move, the palm began gracefully to tilt, to spill the stone on the ground. So I took it. Anybody would. Not meaning to keep it, you know, just out of curiosity, to see it close.

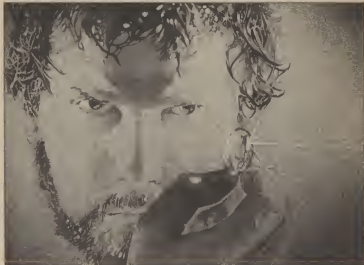
"It wasn't gem-cut, only polished-off cabochon, but when I held it up the moonlight showed through dark blood-red, like there was a fire inside. It had to be a ruby. If it wasn't too badly flawed, it must have been worth God knows what. I figured it was good, too; obviously he had chosen his best stuff to sew into his hide.

"My Spanish was drying up. I was trying to make up a suitably polite refusal and get the thing back into his hand, when I saw his eyelids sliding down, and his whole body sagged. He got himself straightened up again, but I could see him swaying, fighting to stay on his feet. Jesus, I got scared he was going to die in front of my face after what he'd been through.

" 'Rest. I will bring water.'

"I had the sense not to touch him, even then. I just picked up the canteen, nearly falling over myself, and smoothed off a clean spot for him to settle onto. He sank down gracefully, resting his chin and arms on one knee, the knife still in his hand. The moon was starting down behind us, into the inland jungle, and its pitch-black shadow was spreading from the bluff to the beach where we were. I couldn't spot the trail up to Lirios. It's all low there, though, and I knew it had to be close, so I just started straight up the nearest gully.

"I needed both hands to haul myself up, so I stuck the ruby in my pocket." My visitor's hand went to his shorts. "The left back one, with the button." He nodded his head. Again I had the impression he was trying to recall every detail. "I remember I had a hell of a time securing it, but I knew I shouldn't lose *that*. And then I went on up to the top of the rise. Wait—" He clenched his eyes, saying almost to himself, "Coco-palms. Did I see cocos there? . . . I don't know. But there aren't very many; it's never been farmed. Just wild ones.



"When I hit the top, I found I'd made it wrong. There wasn't any clearing, just a trail. But Lirios's damn radio goes twenty-four hours a day; I knew I'd hear it soon. The night was dead calm now, see; every so often I could hear a wave flop on the beach below. So I staggered along north, stopping every few steps to listen. I was feeling pretty low. If Pedro's radio was off, there was no use looking for a light—he shuts up tight. All I heard was a couple of owl hoots, and the moon getting lower all the time. And dry—I tried to chew a palm-leaf, but it only made me worse.

"I'd just about decided that I should have gone south—this was only my second trip in there, see—when I saw a clearing right ahead and there was this funny slurping sound. The moon was shining on a kind of *ruina* by one side. I wondered if maybe this was a secret *poso*—people don't tell you everything, you know. When I got about ten steps into the moonlight a peccary exploded out and tore off like a pint-size buffalo. It about scared the pants off me, but I knew that slurping had to mean water. So I went over to the stone blocks and stepped in a wet place. This struck me odd at the time, because it was a dry year; the lagoons even were low; but I didn't stop to worry about it. I just crawled through till I found the hole, and stuck my

head in and guzzled. Then I filled the canteen and a plastic bag I had, and got everything on me sopping wet, for that poor lad down below. I remember thinking this would be a nice spot to camp out for a couple days til we got our strength back, so I stood up to orient myself. The moon was still on the *laguna* right down below me and I sighted on an islet with a big strangler fig. The lagoon was high here, but that didn't bother me—you know how this weather varies; one place can get soaked while the rest of the coast dries up. Then I cut straight up over the dune and more or less fell down to the beach, and went back south on the last edge of moonlight to where I'd left him.

"I found him easy; he'd had the sense to crawl to a patch of light before he collapsed. Now he was lying face-up, asleep or unconscious. I was scared for a minute, but his head was thrown back and I could actually see the pulse going by his long, full throat. The jaw-line was delicate, like a child's or a girl's, and those great soft black lashes on his cheeks made him look more than ever like a beautiful woman. I knelt down by him, wondering if it could possibly be. I'd only seen the bottom of his ribs, you know. And those stuffed pants could be a fake—people do crazy things. And I'd felt that tiny waist. I was just getting my nerve to pull the shirt up, when the lashes lifted and the huge dark eyes met mine.

" '*Agua pura.*' I held the canteen by his mouth. 'Drink—*tome.*'

"The hands made a feeble movement, but they were too weak to hold the canteen. I could see the fight was gone too; the eyes looked like a bewildered child's.

" '*Perdon,*' I said, just in case, and slid one hand carefully through that glossy mass of hair to join canteen and mouth.

" '*Slowly. Drink slowly, despacio.*'

"Obediently, my patient took long, slow sips, breathing deeply and stopping now and then to stare up at me. Presently an innocent, beautiful smile came on the lips. I smiled back, realizing that this stranger had in all probability decided that I had taken his gem and left him there to die. But just as my hand went to my pocket to give it back to him, his head fell back again across my arm. It was so heavy that I had to lie down alongside to support it, and the canteen was finished that way. I bathed the forehead and face with my wet bandanna, too.

"When I produced my plastic water-bag the smile changed to pure wonder, and the eyes grew wider still. Despite thirst, that transparent plastic had to be felt and poked at before my patient would drink . . . I can remember how oval and shiny the nails were. Not

polished, you know, but buffed in some way. And very clean; I could even see their white half-moons.

"The real moon was going down fast behind us. In the last light on the shore, I noticed that the long-boat had washed close in. She was riding heeled over, dousing that broken mast in and out with every quiet swell. It would have been a torturing end for someone tied there. I guess I shuddered.

"The person in my arms raised up enough to follow my gaze, and for a second I saw again the furious aristocrat. Saw and *felt*—it was like a jolt of voltage through my arms and chest. I didn't like the idea of what so much rage could do in a person so weak. By luck I had just located an old piece of health-bar in my shirt. It was sodden but okay, so I broke it and touched it to the stranger's lips.

"*'Es bueno. Come.'*

"A tongue-tip came out to explore the lips, dainty as a cat.

"*'¡Chocolate!'* My patient stared at me open-mouthed, the boat forgotten.

"*'Sí, it's good. Eat some.'*

"*'¡Chocolate!'* And the next thing I knew the stranger had stuffed the whole thing in his or her mouth, like a kid, with me trying to say 'Take it easy' and both of us grinning like mad.

"I recall thinking that chocolate couldn't be all that rare in Peru or wherever. Was it possible the person I was holding in my arms was simply a refugee from some expensive nut-house?

"But there was one thing I was determined to find out, if I could just hold out until my companion went to sleep. It wouldn't be long now; another sip or two of water, and the furry lashes were sweeping low with fatigue. The only trouble was, I was almost asleep myself. And the darkness coming over us didn't help. Even the occasional muffled clanking from the boat was starting to sound like music. I wedged a sharp rock under my shoulder, and that helped a bit. The person in my arms was drifting off; I could feel the body softening and fitting against mine in a way that made me absolutely convinced it had to be a woman, or the damndest gay earth ever created. But that rock was getting to feel soft. I was desperate enough to actually try pinching myself as hard as I could, with fingers that felt like Jello.

"The second time I did that, I hit the lump in my back pocket and remembered the ruby. That woke me a little; it seemed unbearable that this aristocrat might think the stone had bought that water. So I wriggled enough to unbutton and carefully pull it out. Or rather, I tried to. My fingers have never felt so clumsy. It was almost like

the stone was hiding, it didn't want to come.

"But I finally managed to get hold of it and ease it across my body toward where one of her hands was lying on the sand beside her head. A star shone right through as I raised it. I guess a poet could find the right words, but the truth is that the only red flash I've ever seen like that was on a police squad-car.

"The hand was lying palm-up, with the fingers slightly curled, and I went to put the ruby in it. Again I had trouble. The hand moved but without moving, if I can describe it—maybe I was just too dead to focus right. And her body was half under mine now, and it moved in a way that—well, you wouldn't have thought mine could respond, in the state I was in, but I did. That made me more than ever eager to get rid of that damned stone. I made three grabs at that little hand and caught the wrist, and forced the thing in her palm and curled her fingers over it, so I could get my own hand back where it wanted to be.

"But by then her body had slackened and fallen away from me, and before I could stop myself my nose went down in her cool dark hair and I was dead to the world.

"I didn't remember until next day that just at the very end, as I was folding her warm fingers, they seemed to change too, and turn kind of cold and stiff. And there was a strange faint sound from away on the sea, I guess it might have been a kind of wail from the boat's scraping, or like a bird's voice . . ."

His own voice had grown cool and quiet.

"That's it, really."

He showed his teeth in a comfortless grin.

"I woke up in a blazing sunrise, all alone. There wasn't one mark on the beach, not even my own footprints. But lots of plastic trash now—there was a Clorox bottle by my head. It hadn't been there before. Maybe the tide sent up a little wavelet, enough to smooth everything out without waking me. It was far out again by then, farther than I've ever seen it. No sign of a boat, of course. I guess if this was a good ghost story, there'd have been *something*—he gave that joyless grin—"but there wasn't a single trace. Not even one long black hair. I looked, you see. I looked. The only tiny thing was, my hip pocket was unbuttoned. Oh how I searched. And all the while hearing Lirios's damn radio yattering from over the bluff."

He made a sound somewhere between a cough and a sigh.

"After . . . after awhile I climbed up; the path was right behind me. When I looked back I noticed three or four dark knobs of wood sticking out of the water 'way far out, like in a line . . . I bought

some tacos off Pedro, and filled up the canteen on his skunk-water, with the radio banging out mariachis and tire ads. The thing is, Pedro's *poso*, his well, was right where the old *cenote*, the water hole, had been. I checked—it was the same view, but the water was low, like everywhere else that year. So I went back on the beach and walked on north. It was like a dream—I mean, not the other; the dream was Lirios and Pedro's *chistas*—joking. Or no, it was more like two dreams at once . . . ever since."

He was eyeing me intently, Maya-style, out of the corners of his clear *gringo* eyes. I got very busy discouraging some sugar-ants that were after his pack-roll.

"When I came by next year, you weren't around."

"No. I was late."

"Yeah. And I was earlier . . . Nobody was around but some kids and that lad with the *machete*."

He nodded his beard at Ek, who had resumed surveillance at extreme range.

"When I got by Lirios there were five *borrachos* from the *Gardia Nacional* roaring up and down the beach on their new Hondas and firing handguns at the moon. So I went on by. About sunrise I met an old *ranchero* walking down from Tuloom. We talked awhile. A fine old guy, I gave him my plastic water-bag. Turned out he knew all about me—you know how it goes around here."

"*De vero*. I've never yet gone anywhere I wasn't expected."

"Yeah." He wasn't listening. "Anyway, he wanted to make sure I'd passed by Lirios at full moon the year before. When I told him 'Yes,' he said, 'Good. In *la noche negra*, the moon-dark, the very bad ones come. Not often, you understand—but they *can*.' Then he asked me if anybody had given me anything there."

"I told him, 'No, at least, I didn't keep it.' He looked at me real hard and serious. '*Bueno*,' he said. 'If you had kept it, you would be *perdido*—lost. So long as you touch or hold anything. And are you free now? It is much the best that you go by day. Do you know the name of that place?'"

"'No.'"

"*'El Paso del Muertes*. The pass or place of the dead, their *querencia*. Because all things come to the shore there. From Ascensión, Morales, Jamaica even. Sometimes quite big *lanchas*, shrimp-boats even from the Gulf. The rocks turn the current under water, you see, very far out. People used to make *mucho dinero* from what came there. But only by day, you understand. Only in the light of the sun. But that's all finished now. The *Gardia Aereo* finds them first from

their planes.' He pointed out east. 'Where the sea turns by the *rifé de Cozumel*. Only wood and *basura*, worthless things come now.'

" 'I think I saw the ribs of one old wreck. The tide was very far out.'

" 'Ah?' He gave me that penetrating stare again. 'It must have been indeed very low water,' he said. 'Only once, in my youth, have I seen such a thing. I waded out to see it—in the day. It had been a sailing-boat. You know the metal *grimpas* used to hold the mastropes?' He did a little sketch in the sand, showing the stays. 'These were not fitted in, my friend, the way they do today. They were made of hot metal, poured right into the side of the ship. Which has not been done for two, three hundred years.' "

My visitor gave a deep sigh, or shudder, and tried the grin again. "Anyway, we said goodbye and went our ways, and when I got to Tulum I heard that something had happened to one of the drunk *soldarero* kids the night before. I found out later that Pedro's brother dragged the Honda out of the drink and filed off all the numbers. He's trying to fix it up."

Abruptly, the light eyes locked on mine. I couldn't dodge. "Look. *Is it possible?*" He nodded at the shelves behind the glass. "You're supposed to know things. Aren't you? Could I have, well, *dreamed* all that? I mean, it went on so long—it started right over there, you know. I must have walked after that thing for ten miles."

His voice got low and slow, the words almost forced out. "Could I have—made it up? Believe me, I'm not a day-dreamer, I don't even dream much at night. And I don't drink, only a few beers. No grass for years now. And the other shit they have down here, I learnt not to mess with that the first week I was here. And fiction, movies, mystic stuff—forget it. Here, look—" He bent and fished a thick pamphlet out of his pack. It was titled *Hydraulic Properties of Natural Soil Aggregates*. He put it back and looked straight up at me.

"Am I—crazy? How could I have made up all that? Was I in a different time? *Am I crazy?* . . . What do you think?"

He was really asking. I was thinking that I knew many people who would be delighted to take charge, to enlighten him on the ultimate nature and limits of reality, or the effects of dehydration and solitude on cerebral function. But some minutes earlier I had discovered I wasn't one of them. What in hell *did* I think, what had I been doing all during that long account, except believing him? . . . I knew what I *should* think, of course. All too well I knew. But, well—maybe one can dwell

too long on the sands of the Quintana Roo.

I started a tentative mumble when he interrupted me, almost whispering: "How could I have made up that song?"

"Song?"

"I—I guess I didn't tell you about that." His face had turned back toward the sea, so that all I could catch from the fading gusts of the Stuffer was something about "at the end, see . . . and even this year."

He coughed again, and began to hum tunelessly, and finally sang a phrase or two, still watching the far reefs. His voice was clear and pleasing, but totally off any conceivable key.

"You see?" He glanced briefly at me. "I can't sing *at all*. So how could I . . . ? I can hear it, though."

The tune he had produced could have been any of a hundred Spanish wails—*amorado, corazon de oro, amor dorados lejos, lejos por la mar—Quisierra viajar*; that sort of thing: love, golden love far over the sea, who would not journey to the golden heart of the sea? . . . If there was anything extraordinary there, my Spanish could not detect it. Yet it seemed to have significance for him, as sometimes the most ordinary phrases do, in our dreams. Could I salvage my own sanity by hinting at this?

But whatever I might have said, I had delayed too long. His gaze was on the sea again, and he spoke in a whisper, not to be.

"No. I didn't make up that song."

Our moment had passed. Abruptly, he was on his feet, picking up his pack and canteen. The sea was almost calm now, a burnished splendor of green-gold and salmon, flushed with unearthly lavender and rose, reflections of the tropic sunset behind us. My dismayed protests blended with his farewell.

"Please wait. I'd assumed you'd spend the night here. I have a good spare *amaca*."

He shook his flaming head, smiling politely.

"No. But thanks for the stuff and everything, I mean, really."

"Can't you wait a moment?—I meant to give you some—"

But he was already moving away, turning to stride down the beach. My last view of his expression was a mingled eagerness and sadness, a young face shadowed by a resolution I couldn't hope to break. The sunset behind us was now filling the air with golden haze, the palms were still.

After a moment I followed him down to the beach, irresolute. His easy stride was deceptive; by the time I reached the tide-line his thin figure was already filmed by the soft twilight air between us. Even to catch him now I would have to run. The mad notion of

accompanying him on his walk through the night died before the reality of the old heart jittering in my ribs.

I could only stand and watch him dwindle, fade into the stick-figure I had seen at first. Tropic dusks come fast. By the time he was rounding the point I could barely make him out, had it not been for an occasional glint of red hair. Just as he turned the corner of the mangroves a new light came from sea-ward and lit up his head with rosy fire. Then he was gone.

I turned and saw that the full moon was rising through the cloud-castles on the sea, a great misshapen ball of cold, gaseous light. For a moment it shone clear, at the apex of its luminous sea-path; and the beach became a snow-scape in silver and black. Then the high clouds took it again, in racing patterns of lemon and smoky bronze; and I turned to make my way up to the dark *casa*. Automatically I registered the high cirrus from the east—tomorrow would be fine. As I neared the patio, Ek's hat scuttled behind a dune on the road. He too had been watching the stranger go.

And that's it, really, as the strange boy said.

The night turned greasy-hot, so that about midnight I went down to cool myself in the placid sea. Mayas do not do this; they say that the brown sharks come close in on calm nights, to bear their young in the shallows. I waded out hip-deep to my sand-bar, wondering where my visitor was now. Great Canopus had risen, and in the far south I could just see Alpha Centauri, magnificent even in the horizon veils. The sheer beauty of the scene was calming. No wonder my young friend wanted to make his way by night. Doubtless he was already near Tuloom, perhaps curled up in one of his wayside nets, savoring a grapefruit, fighting off the *chiquitistas*.

The thought of the grapefruits had reassured me some time back. Surely a man does not set out to meet God knows what, to follow delusions or invoke spirits or yield to succubi—armed with two mediocre grapefruits and a baggie of maple-syrup?

But as I stood there in the quicksilver Caribbean, a triangular shadow with something large and dark below it caught my attention. Only a sea-fan, no doubt. But I decided it would be prudent to return to land before it came into the channel I had to cross. And as I splashed ashore another memory came back; my young friend claimed to have fed chocolate to his particular apparition. Was my maple-syrup possibly destined for the same?

This troubling notion combined with the extraordinary heat and heavy calm—effects not often met on this shore—and with an over-active conscience to give me a very bad hour on the patio that night.

What had I done, letting him go on? Hallucinated or sane, it was equally bad. Several times I came within a gull-feather of rousing out Don Pa'o's son to ride me to Lirios on his bike. But what then? Either we would find nothing, or ignominiously come upon my young man eating Pedro's tacos. And either way, my hard-won reputation of being fairly sensible, for a *gringo*, would be gone for good. . . . I fear that selfishness, rather than good sense, drove me finally to my hammock and uneasy sleep. And in the fresh morning breeze, what passes for sanity prevailed.

The tale has no real ending, but only one more detail which may have no bearing at all.

The next week of fine weather saw me plunged back into some long-overdue paperwork, during which no gossip came by. And then the advent of the *rancho's* first real live school-teacher threw everyone into a great bustle. She was a resolute and long-suffering Maya maiden, sent by the *Goberniente* to see that the *rancho's* grandchildren did not grow up as wild as their parents had. I found myself involved in making peace between her and the owner, who paid one of his rare visits expressly to get her out. My task was almost hopeless, until the generator conveniently—and expensively—broke down, and I was able to convince him that it might be useful if someone could read the manual. Thus, with one thing and another, I found no occasion to query Don Pa'o about the *gringo caminante* before it was time for me to go.

The next year I came early, and found myself keeping one eye on the beach. Nothing came by, until there was a little excitement at Lirios: a body did wash ashore. But I quickly discovered it was the corpse of a small dark man with the name OLGA tattooed on his arm.

That evening was another windless one, and I strolled over to where Don Pa'o and his lady were dining alone in their outdoor kitchen. The last of their resident sons was staying in Cozumel that year, learning to lay bricks.

After the ritual greetings, I remarked that one was reminded of the red-haired *gringo* walker, who did not seem to have come by this year. As I spoke, the old man's mouth drew down, until he looked exactly like the petty Maya chieftain his grandfather had been.

"Do you think he will come this year?"

Don Pa'o shrugged, and the globular brown matron who had borne his ten children gave the all-purpose Maya matron's cackle, intended to convey nothing except possibly a low opinion of her conversant.

"Perhaps he has gone back to Norte America?" I persisted.

Don Pa'o squinted at me hard for an instant, and then his slant

eyes drooped, and his chin swung slowly from shoulder to shoulder. "No," he said with finality.

At the same moment his wife made an extraordinary complex criss-cross of one hand across her abdomen. It puzzled me, until I recalled that some of the high-status older ladies here profess a brand of Catholicism whose rites and dogmas would doubtless astonish the Roman church. Then she got up to take the plates.

I did not need another look at the old man's archaic face to know that the subject was closed—and to sense too that I would not be seeing the strange red-haired boy again.

But why? I thought, as I made my farewells. What do they, what can they know? I have enough casual informants along this coast to ensure that nothing really disastrous or sensational could have occurred without my catching at least an echo of it, after this long. Mayas love morbidity; the actual fact was probably that my young friend was minting money in the swimming pool business, or had decided to explore someplace else.

Yet as I sat on my moonlit patio, listening to the quiet splash of the wavelets on the beach below, they seemed to be sighing out the odd little tuneless tune my visitor had tried to sing. *Amor dorado, lejos, lejos por la mar*. I realized I'd been half-hearing it now and again, particularly when I swam on quiet days, but I had put it down to the murmur in my bad ear. Now it was plainer. And the stranger's whole tale came back to me, as I had not let it do before. A year had passed and cooled; I could reflect.

I found I did not believe it—or rather, I did not believe in its outward detail and aspect. It could, I suppose, be some unquiet spirit who came to my young friend, some long-dead Spaniard or revenant Conquistador, some androgynous adventurer proffering ghostly gold; a life-hungry succubus from the shadows between the living and the dead. Or he could have been, very simply, out of his head. Yet I didn't quite believe that either.

What haunts me is the idea that something . . . did come to him there, something deeper than all these, which took on those manifestations to lure and seek him out. Something to which he was peculiarly vulnerable; and which, I fear, took him to itself on the night he left me. (For it has been five years now that he has not been seen here, and there is word that his partner in Des Moines has never seen him back.) What could it be?

I gazed out long at the impersonal beauty before me, scarcely daring to name it: the last great wonder of the world . . . "Anything you need," the boy had said. Whimsical as a tea-tray, seductive as

a ruby, more terrible than all the petty armies of man. Who could say what was not in it, despite all our tiny encroachments and sorties? Perhaps we will kill it. And with it, ourselves. But it is far from dead yet—and its life is ours. As the boy had said too, our blood is its very substance, moving in our veins.

As I prepared to cease gazing and go to my human sleep, I recalled a trivial detail which carried an odd conviction. The Spanish word *mar* has one extraordinary aspect: *El mar, la mar*—the sea is the only word in Spanish, or any other tongue known to me, which is both female and male indifferently and alike. If it was indeed the sea itself which came for my friend, is it any wonder that it came in double guise?

*Quintana Roo, maps call it,
That blazing, blood-soaked shore;
Which brown men called Zama, the Dawn,
And other men called names long gone
Four centuries years before.
Still songs of Gold that dead men sought,
And lures of Love whom Death forgot,
And hungry Life by Death begot,
Murmur from ocean's floor.
For those who myth from fact would know
Dwell not in the Quintana Roo.*



Dear George, Shawna, Dr. A.:

Bob Silverberg is one of the best in our field (I feel that this letter endows me with certain proprietary rights) or any other, in my most humble but correct opinion. My excitement at finding his name on the cover of the May Asimov's was therefore extreme.

I skimmed rapidly past the editorial on anthologies (forgive me father, for I have sinned!). I swallowed "Moonbow" at a single gulp, a fine piece of work which I enjoyed in spite of my fevered rush to get at Silverbob's latest offering, vaguely remember Martin Gardner's going "Crackers," *finally* arrived at good old page forty-one.

The first two pages were all anyone could ask, considering the premise. Not that I hold anything against the *neighborhood bar story* sub-genre, I just wouldn't have thought it Mr. Silverberg's cup of tea.

The middle two pages were perfection.

Then came the last two pages of the story and something seemed to have gone wrong. Nothing easily definable, no glaring errors; the ending just didn't sit right. I felt as if I'd been robbed, as if I'd read three quarters of an excellent story only to find George had cunningly hidden the ending back in the Letters section somewhere.

So I sit at my dining room table at two-thirty in the morning listening to the thunder outside and trying to decide if I liked "The Regulars." It occurs to me that whether I *like* the story or not may be immaterial since it obviously moved me enough to do something I've never done before, write to a magazine to comment on what I found within its pages.

It is storming outside my window. One of those loud spring storms that seems to go on and on, much like I imagine the storm outside Charley Sullivan's bar to be; and it occurs to me also that a story of this kind should have no real ending, just a sort of fade-out like some of the old "Twilight Zone" episodes used to do. I believe I'll read it one more time before turning in.

From all of us who comprise the legions of Silverberg fandom, thanks.

Barry D. Womack
930 Ellison Ct.
Austell GA 30001

I assure you I share your admiration for Bob. However, as a matter

of reasonable tactics, in a case like this, read the Silverberg story first, then you can savor the rest of the magazine at leisure.

—Isaac Asimov

Dear Editors,

It is a little late to be commenting on the Feb. 16th issue, I know; but my copy didn't come in the mail (!) and I had to auctorially prompt Connecticut in order to have one specially sent; which puts me about a month behind.

Anyway, I have just this minute finished reading a story therein which BLEW MY SOCKS OFF, and because of the subject matter it dealt with, I immediately realized the importance of letting you know how I feel about it, because—although I hope I am wrong—I am sure that you will get protests against it from some of your more puerile readers (you've probably got a deskload of them already; right?) [*Wrong.*]. I therefore feel obliged to register my passionate approval and defense of what I consider one of the best (if not THE best) stories I've read in your magazine in the eighteen-plus months I have been a subscriber.

The story I write of is "Full Fathom Five My Father Lies," by Rand B. Lee. *For the record*: I applaud the story; I applaud the author; and I applaud the editors at *IA's/m* for making what I consider to be a wise and wholly proper editorial judgment. My only cavil might be that you did not make it the cover story. Thanks for printing it.

In closing, I'd like to mention that (a) I liked "Silicon Psalm," by Jeff Duntmann almost as much as the above story, (b) I *love* your new covers, and (c) I just renewed my subscription for another year.

Bravo to you all!!!

Best wishes,

Bill Nilsen
Avon MA

I like to think that we don't have any puerile readers. Honest disagreements, yes. Puerility, no. And thank you for the subscription renewal; a wise move.

—Isaac Asimov

Dear Mr. Scithers and Dr. Asimov,

I am writing to praise your new cover design. The old "logo" was

unruly and unappealing. The new one is both more pleasing to the eye and does a good job of insuring Doctor Asimov's place in science fiction history. In thirty years one science fiction fan may ask another, "Do you have this month's *Asimov*?" No one's name better deserves to be on everyone's lips.

I would appreciate your sending me the requirements for the submission of work. I have enclosed an envelope. [Done!]

Sincerely,

Robert Robillard
Ithaca NY

In thirty years (unlikely as it may seem for one as young as myself) I may be attending the great science fiction convention in the sky. I like to think mention of "this month's Asimov" is already on everyone's lips.

—Isaac Asimov

Gentleperson:

Hallelujah and a round dozen Huzzas!! Good for you, Dr.! Your editorial in the April 13th issue was a refreshing breeze blowing through the noisome effluvium of current literature.

I love a good story, including some romance. But I am not a peeping Tom or an eavesdropper and I resent being treated as one. Beside which, my imagination does a much better job than do explicit descriptions!

Hold out for the writer who learns his craft and doesn't have to lean on such garbage to get by and you will have the deep appreciation of many readers. I am encouraged to think more and more editors will agree with you and more and more readers will be delighted with the results.

Sincerely yours,

Rae Lafay Cottle
4809 Malabar Dr.
Brunswick GA 31520

Of course, there are people with poor imaginations who relish explicitry because otherwise they will have nothing. I see nothing wrong in serving them—but not in this magazine. We are dedicated to readers with imagination, or we wouldn't deal in science fiction.

—Isaac Asimov

Dear Mr. Scithers,

I would like to compliment you and Dr. Asimov for the new and tasteful design of your cover. It has a rather stately and dignified appearance as opposed to the more informal and relaxed appearance of your previous layout.

I think that the first cover design reflected the tone of *IA'sfm* as revealed in the editorials and editorial comments throughout the magazine. The new cover, on the other hand, tends to suggest the excellence and quality of the magazine as a whole.

Both covers are appropriate for the magazine, but I am curious as to the reason for the change. Was the change made with the intention of attracting new readers who might not have found the previous cover as appealing? (Although, with the Good Doctor's likeness greeting them I would find that hard to believe.)

I won't go as far as to say the new cover is an improvement but it is an attractive and well-planned design.

Sincerely yours,

Roger F. Krueger
Dansville NY

I had anticipated such questions and have written the editorial you will find in this issue in order to explain the matter of covers.

—Isaac Asimov

Dear Mr. Scithers,

I do not intend to renew my subscription to *IA'sfm*. Your magazine seems to have become more a show piece for our dear Dr. Asimov's ego and less a periodical for science fiction.

Where is the science fiction? Most of what I read, other than editorials, book reviews and panegyrics for your contributors, are fairy tales and fantasies. Where are the mind-stretching tales of things that might be? Where are the tales of lives that depend on dimensions that are not thought of by our present world? Sadly I have not found them in most of the past issues of *IA'sf*.

With regret,

Ralph D. Bell
9601 Ashton Rd. #D-13
Philadelphia PA 19114

I am horrified at the rumor that seems to be going round to the effect that I possess an ego. I am science fiction's best-known shrinking violet.

—Isaac Asimov

But—but—the kind of mind-stretching fiction you're looking for is exactly what you are dismissing as mere fantasy.

—George H. Scithers

Dear Sirs and Shawna:

I have just finished devouring the May issue of *IA'sfm* and decided to put in my two cents worth: THANK YOU!!! *IA'sfm* is the only SF magazine I can consistently enjoy.

One of the reasons I enjoy your magazine is that it is written in single columns with each story coming page by page. I was afraid, at first, that a new cover format meant a change in your "inner" format. In response to Dory Miller's letter, I can assure you that not all your readers wish for more columns for more stories. (I would enjoy more stories, but I'd prefer it to be done by an increase in pages and/or price.)

I say stories, but I love your other features too. Baird Searles helps keep me abreast on what's new and what it's about, the Good Doctor writes extremely enjoyable and informative editorials, and Martin Gardner usually amazes me. But what really strikes me are your puns and poems.

Is *IA'sfm* the only source for SF poems and puns? I really appreciate something different, but it's sad if only your magazine publishes them. (If it is, how about considering something along the line of *Isaac Asimov's Collection of Science Fiction Poetry* or *Isaac Asimov's Collection of Science Fiction Puns*?). Despite the puns being painful occasionally, I've never been disappointed by any poems or puns except Grendel Briarton's recent Feghoot. All in all, with his running record I forgive him.

Please keep up the good work.

Debbie O'Neal
Fort Knox KY

Collecting the poetry or the puns strikes me as a notion worth consideration. What do you think, George? Shawna?

—Isaac Asimov

Dear Folks,

While I must admit that, graphically speaking, your new cover design and logo are much more visually striking and aesthetically balanced, I will miss the good doctor's face.

Truly,

Su Falcon
Box 2352
Hollywood CA 90028

When it comes to missing my face, it depends on whether you are intending a slap or a kiss.

—Isaac Asimov

NEXT ISSUE

The October 26, 1981 issue of *IA'sfm* will present work from some old favorites as well as by some new talent. John M. Ford is in the issue with another in his "Alternities" series, this one called "Intersections." Somtow Sucharitkul is also back with another Mallworld story, and F. M. Busby, who last appeared in these pages in the February 16, 1981 issue, is represented by "Backup System." The cover story is "The Artistic Touch" by Ian Watson, and it might make you pause the next time you enter an art museum. On sale September 29, 1981.

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